

ARCHITECTURAL RECORD



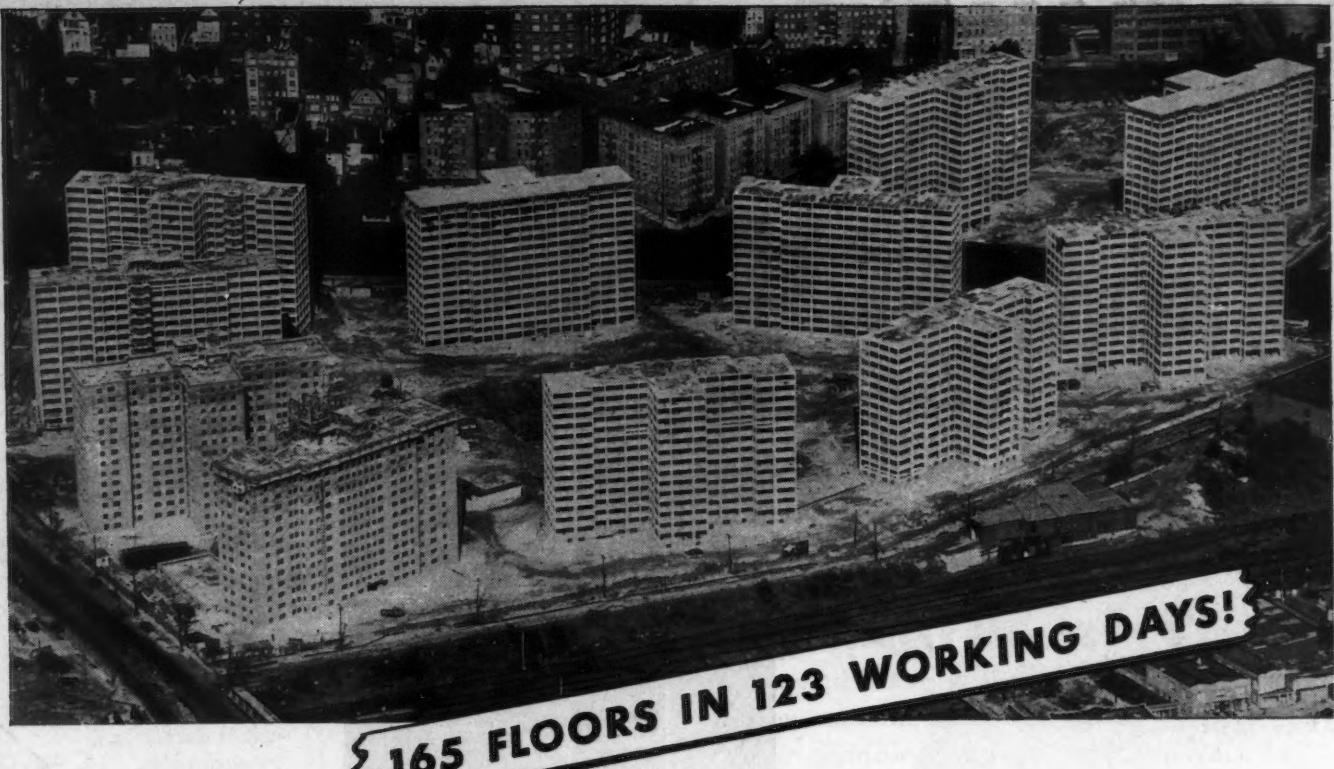
And all through the house...



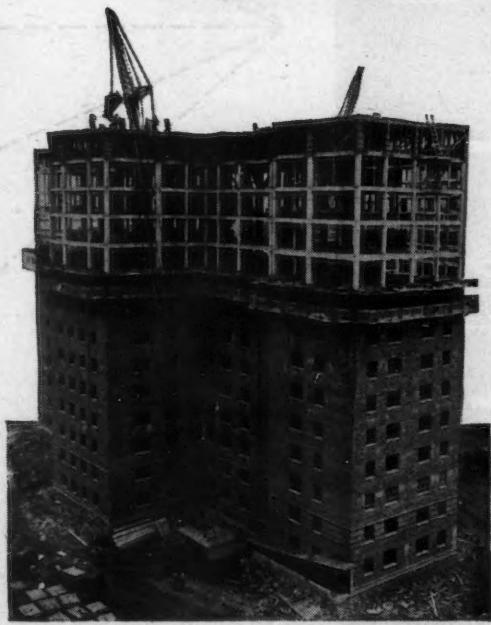
...Flintkote Building Materials

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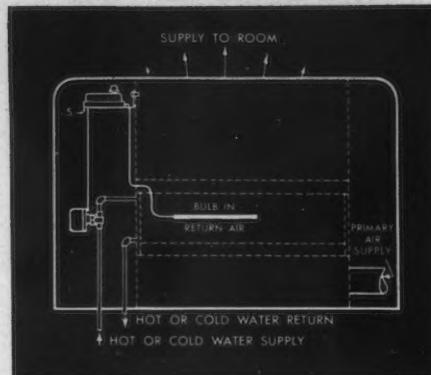
In HOTELS
and APARTMENTS



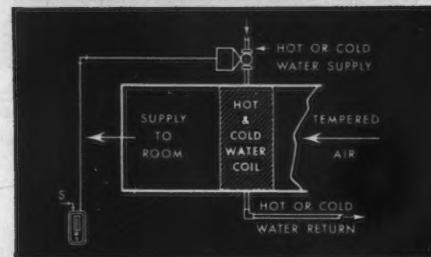
In OFFICES
and HOSPITALS



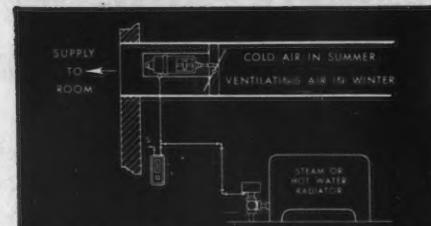
and other
types of
multi-room
buildings



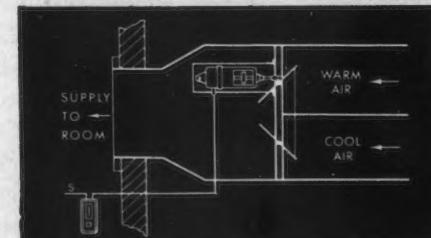
For systems
using high
pressure
primary air
in room unit



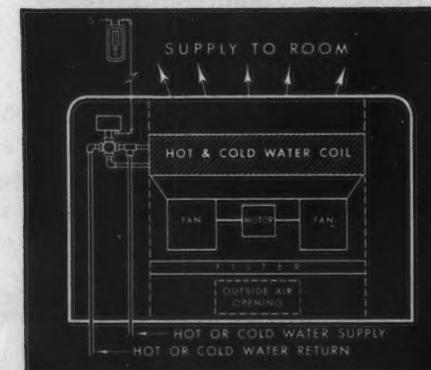
For systems
using individual
coil in duct
to each room



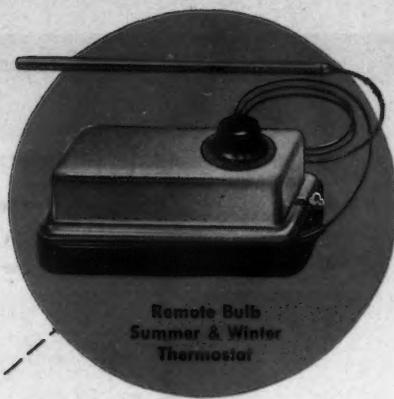
For systems
using volume
or mixing damper
in duct to
each room



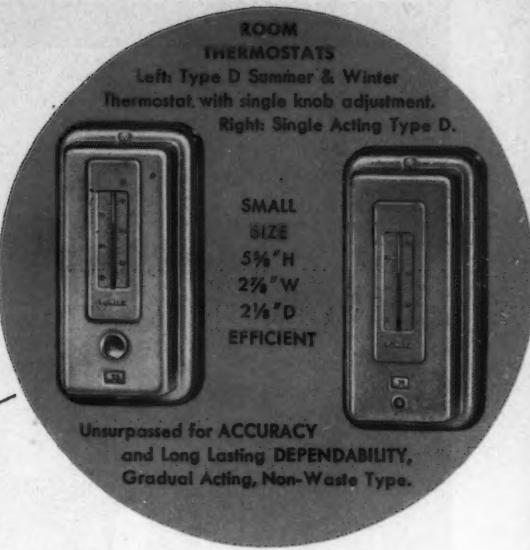
For systems
using fan
in room unit



For
Air Conditioning



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Right: Single Acting Type D.

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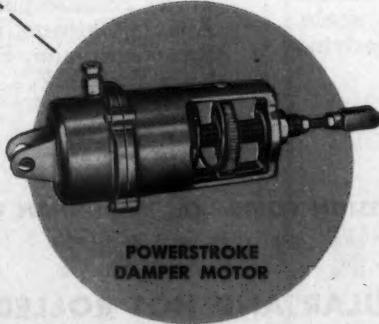
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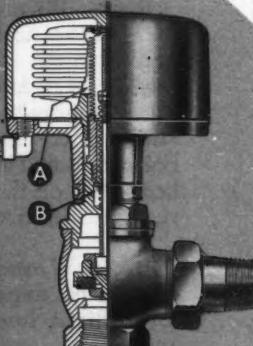
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DIAPHRAGM VALVES**

**Sectional View of
NO-PAK Construction**

- Double Protection against loss of vacuum on steam systems or leakage on water systems. Requires no maintenance of packing gland.
- Gives BETTER CONTROL. Eliminates normal packing gland friction. **LOW HYSTERESIS.**



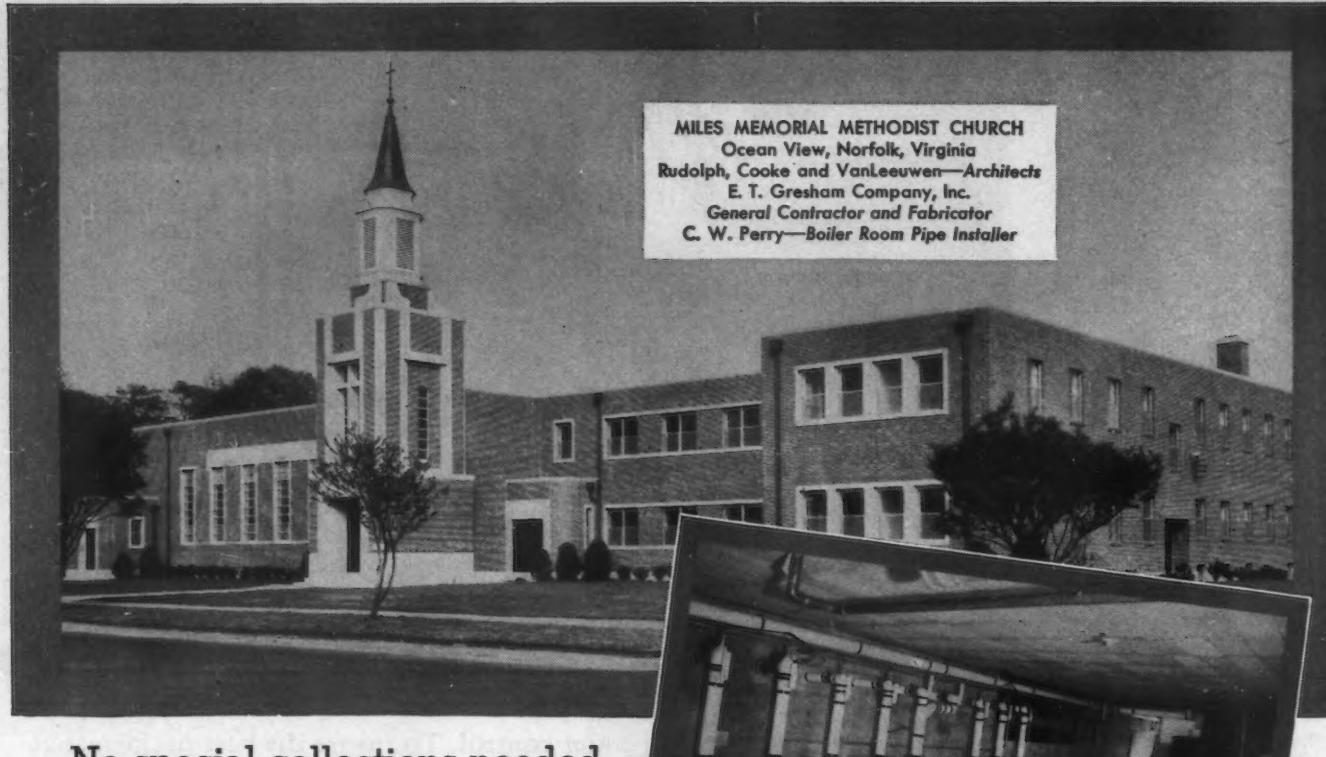
NO-PAK valves are
available with union
angle, straightway and
3-way bodies. Brass
packless bellows (A) and Emergency Seal (B)
give positive protection against leakage.



Powers Standard Valves are attractive in appearance and ruggedly built to give many years of trouble-free service. They are available with union angle, union straightway or 3-way bodies.

Above: Small, compact pneumatic valve is easy to install on small convectors and other heaters where space is limited. Available with union angle and straightway bodies and standard packing.

Systems



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E. T. Gresham Company, Inc.
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C. W. Perry—Boiler Room Pipe Installer

No special collections needed
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the RADIANT HEATING uses



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Byers Wrought Iron pipe was laid on the first and second floors and encased in concrete. The system is automatically zoned; the small illustration shows the circulators and control boxes in the boiler room. The electronic control boxes are on the panel board to the right of the circulators.

Byers Wrought Iron is the first choice of experienced engineers for radiant heating because of its



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ARCHITECTURAL RECORD



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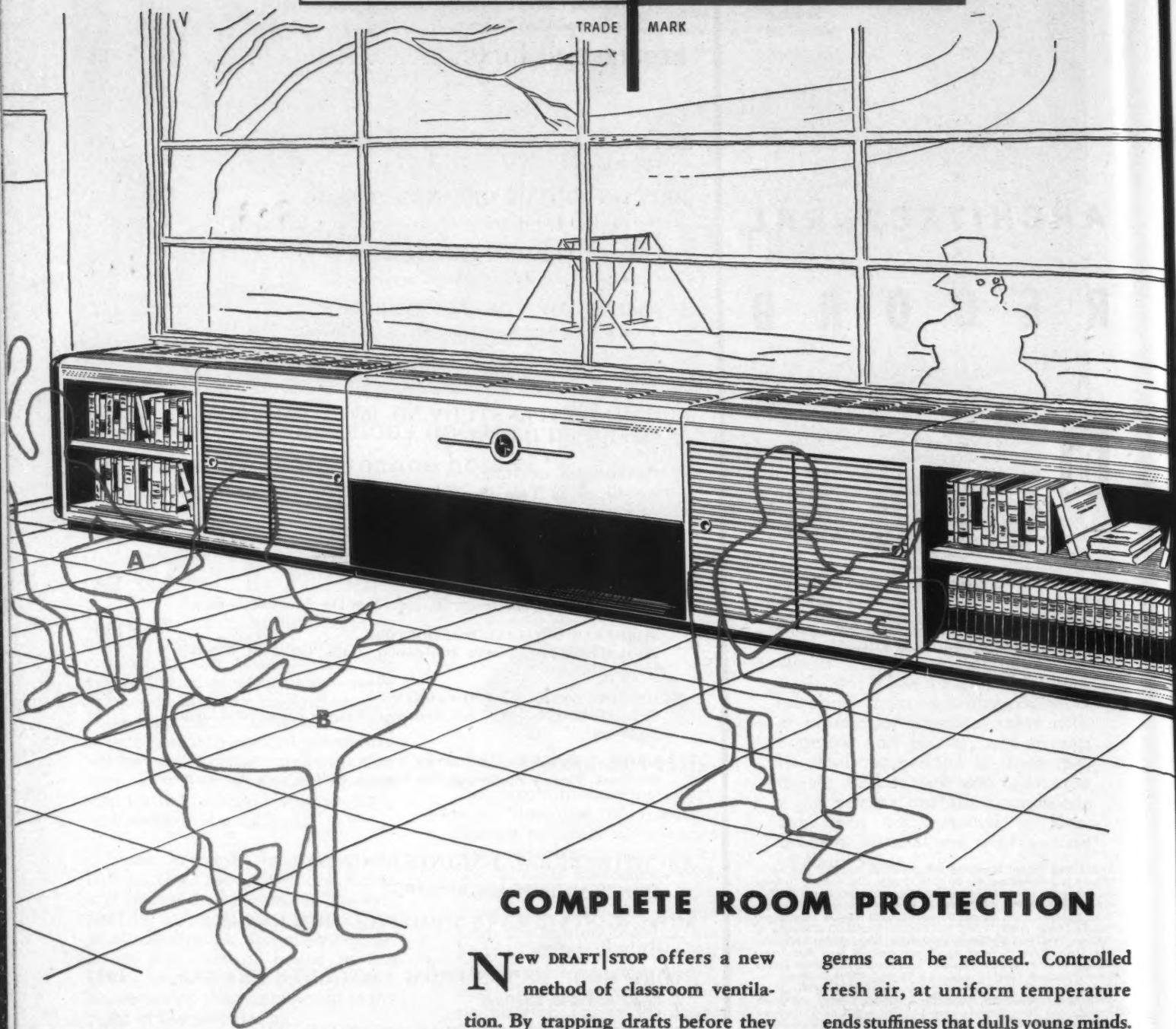
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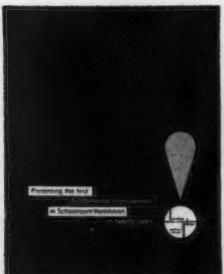
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THE RECORD REPORTS

ARCHITECTS GATHER AT FOUR STATEWIDE MEETINGS; REGIONAL COUNCIL FORMED

Gulf States Regional Council Founded at Louisiana Meeting

FORMATION of a Gulf States Regional Council of the American Institute of Architects was the top news from the fifth annual convention of the Louisiana Architects Association, held November 9-11 in New Orleans.

The new Council, representing A.I.A. chapters and state associations in Arkansas, Tennessee, Mississippi and Alabama, will serve in an advisory capacity to plan regular regional seminars and other activities promoting exchange of information and ideas.

Gulf States Regional Director Howard Eichenbaum is Council chairman, and William Smith of Baton Rouge is secretary-treasurer.

Organizational meetings of the Council were held concurrently with sessions of the Louisiana architects, who managed to enjoy a lot of New Orleans-style sociability between business meetings.

At the annual banquet, Louis Justement of Washington, D. C., the principal

(Continued on page 10)

New York State Architects Hold Convention at Syracuse

AMENDMENT of the state education law to stop licensing of persons who are not architects was recommended in a resolution adopted by the New York State Association of Architects at its three-day annual convention in Syracuse last month.

The resolution recommended appointment of a committee, chosen from the association, to investigate possible violations.

An architectural exhibit and presentation of certificates of award to architects of buildings in four categories highlighted the convention, which also will be memorable for the discussion evoked by the most provocative of its seminars: Traditional Versus Modern Architecture.

Henry V. Murphy of Brooklyn was reelected president of the association. Other officers reelected were: Irving Seelig, Brooklyn, first vice president; G. Morton Wolfe, Buffalo, third vice

(Continued on page 11)



Nationwide Pictorial Service Photo

PIETRO BELLUSCHI TAKES M.I.T. ARCHITECTURE POST

PIETRO BELLUSCHI of Portland, Ore., is the new dean of the School of Architecture and Planning at Massachusetts Institute of Technology. He succeeds William Wurster, now dean of the School of Architecture of the University of California.

Mr. Belluschi will join the faculty at M.I.T. on January 1, but he will continue his architectural practice in Oregon until all current and pending contracts are terminated. During this time the oldest associates of his firm will form a new partnership to be known as Smith, Richardson, Kotchik and Allen, which will assist Mr. Belluschi in carrying out his old contracts and will assume new ones on its own behalf, with Mr. Belluschi as the firm's consultant.

Mr. Belluschi came to this country from Italy in 1923, with a degree of Doctor of Architectural Engineering from the University of Rome. After advanced studies at Cornell, he joined the staff of the Portland firm established in 1906 by the late A. E. Doyle. The firm took Mr. Belluschi's name in 1943.

The new dean's past activities have also included a stint as visiting professor in the Department of Architecture at Yale University. He is a member of the National Fine Arts Commission.



Art Graphic Center Photo

New Louisiana officers: 2nd Vice President Richard Murrell, Baton Rouge; Secretary August Perez, New Orleans; President William Bergman, New Orleans; Treasurer Errol Barron, Alexandria; and 1st Vice President William Wiener, Shreveport

LOUISIANA

(Continued from page 9)

pal speaker, reviewed 50 years of progress in city planning and architecture and lamented the time-lag in those fields compared with achievements in science and technology. But a developing consciousness of the need for city planning was cited by Mr. Justement as the most encouraging development in architecture in America during the past two decades.

Walter Rolfe, Houston, in his address at an earlier session, had emphasized that "city planning should come from the people and not be superimposed on the people."

Morris Ketchum of New York conducted the seminar on store planning at the final business meeting. More regional store architecture to make design suit individual areas was urged by Mr. Ketchum.

A.I.A. President Ralph Walker addressed the luncheon session on the final day. Convention speakers also included A.I.A. Vice President Glenn Stanton of Portland, Texas Regional Director Thomas D. Broad, and Mr. Eichenbaum.

William E. Bergman of New Orleans is the new association president, succeeding Ralph Bodman of Baton Rouge. Other new officers are William B. Wiener, Shreveport, first vice president; Richard C. Murrell, Baton Rouge, second vice president; August Perez, New Orleans, secretary; and C. Errol Barron, Alexandria, treasurer.



Dallas Times-Herald Photo

Dallas Morning News Photo

Snapped at the Texas convention: Above—Jack Corrigan, Dallas; Edward Wilson, Herman Cox, Robert Woltz, all Fort Worth; George Dahl, Dallas. At right: Raymond Phelps, Mr. Purves, Herbert Tatum



TEXAS SEMINARS SPOTLIGHT LIGHTWEIGHT CONSTRUCTION

MORE THAN 150 Texas architects met in Dallas early last month for the 11th annual convention of the Texas Society of Architects.

Architect Welton Becket of Los Angeles and Walter P. Moore, Houston engineer, were the speakers for the seminar sessions on lightweight construction.

A.I.A. Executive Director Edmund Purves was the convention's keynoter; and speakers also included Ralph R. Kaul, head of housing and community facilities for the National Security Resources Board, whose topic was "Architects in Atomic Warfare"; and A.I.A. Second Vice President Kenneth E. Wischmeyer, who was principal speaker at the annual dinner.

Raymond Phelps of San Antonio was elected president of the Society and Herbert Tatum of Dallas, vice president; Mr. Phelps named Richard Vander Straten of San Antonio as secretary-treasurer.

D. A. Hamilton, head of the department of architecture at Oklahoma A. & M., was judge for the convention exhibition. Awards went to owners of buildings, as a salute to their part in making it possible for the architect to do a good job. The architects received certificates.

Architects cited were: Golemon & Rolfe, Houston — St. Francis Cabrini Hospital, Alexandria, La., and St. Theresa School, Houston; Stone & Pitts, Beaumont — Houston Coca Cola Plant; Staub & Rather, Houston — Fondren Library, Rice Institute (ARCHITECTURAL RECORD, June 1950), and their own office building; Robert L.

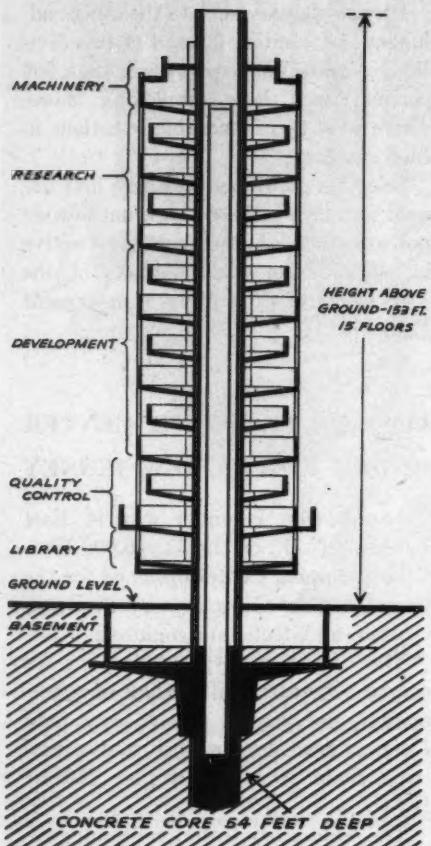


Air Graphic Center Photo

Charles Ralph Colbert, New Orleans, designed exhibit, which will tour state

WRIGHT'S CORE-SUPPORTED TOWER UNVEILED IN PHOTOGRAPHS

*Research and Development Tower Added to Group
Designed for S. C. Johnson & Son, Inc., Racine, Wis.,
by Frank Lloyd Wright, Architect*



THIS already long-famous building in Racine, Wis., was formally opened November 17, and the group of structures designed by Frank Lloyd Wright for S. C. Johnson & Son, Inc., was officially complete.

Its significance in architecture and engineering is already demonstrated in the frequency with which sections of its core-type structure and renderings have appeared in the literature. It is, of course, the first large structure of this type actually to reach construction, and as such it will give sharper point to all of the discussions, once strictly theoretical, of this method of using the principle of continuity. It provides the first practical test of the idea, if not exactly a test of its economic feasibility.

At any rate, the world of building design shares a debt of gratitude to the persuasive old master and his progressive client, which is already well on its way to repayment, if the fame that comes from study and inspection and

mere gaping is to be accepted as coin.

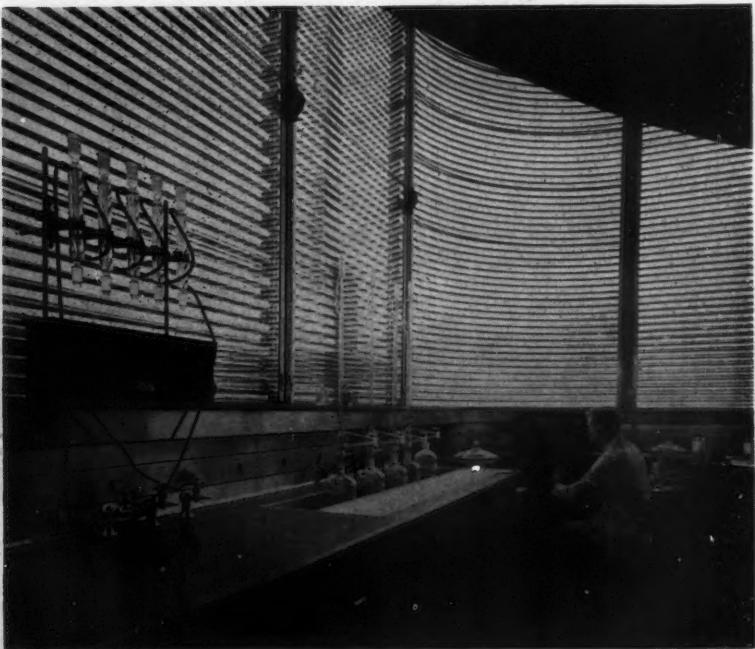
The central core is actually a cluster of circular, reinforced concrete shafts. The center, or main shaft, 13 ft in diameter, houses the air supply and exhaust ducts plus all of the utility and building piping services, always a special problem in a laboratory building. In section, a circular elevator shaft cuts into the main shaft on one side, a semi-circular stairway on the other. The concrete walls of this main trunk carry the entire load, 8,000 tons; they vary in thickness from 7 to 10 in.

The central core extends downward 54 ft in the ground, for the necessary anchorage. Considerations of stability against overturning added a tapered circular plate and a thickened section. It is interesting to note, by the way, that while engineering calculations for this type of structure might appear quite simple, in actual practice they are not — there are no handbooks or tables to use. Such is the price of invention.

Exterior walls are constructed of glass tubing laid horizontally and held in place by stainless steel wires binding them to aluminum supports on the inside. Between rows of tubing are strips of synthetic rubber for caulking. Inside the glass tubing is a wall of plate glass



Pilot plant, also designed by Wright, is two-story structure





Manager Donald McAllister of the magazine and architects cited for their firms: honorable mentions—Kenneth Ripnen, for Cresap, McCormack & Paget offices, New York; Welton Becket, for General Petroleum Bldg., Los Angeles; Irvin L. Scott, Shreve, Lamb & Harmon, for Mutual Life offices, New York; Mr. McAllister; top awards—Ely Jacques Kahn, for Philip Morris offices, New York; John T. Doran, Cram & Ferguson, for John Hancock Mutual Life Bldg., Boston. Unable to be present was Ralph Milman, cited for honorable mention First Federal Savings & Loan Association offices in Chicago.

ARCHITECTS HONORED FOR "OFFICES OF THE YEAR"

SIX ARCHITECTS (photo at left) have been honored with citations for their part in creating the winning offices in the 1950 "Office of the Year" Awards sponsored by the magazine, *Office Management and Equipment*.

Bronze plaques went to the offices adjudged outstanding in each of two divisions — those employing fewer than 500 persons and those employing more. There were two Honorable Mentions in each category.

Selection of winners of these first annual awards was based on a nationwide poll among A.I.A. members most active in office design and members of the Association of Consulting Management Engineers.

\$3,900,000 SHOPPING CENTER UNDER WAY IN NEW JERSEY

CONSTRUCTION is under way in East Paterson, N. J., on the \$3,900,000 Elmwood Shopping Center designed for the Grand Union Company by Kelly & Gruzen, architects and engineers.

The center, with parking space for nearly 3000 cars, will include a supermarket and central offices for Grand Union, a drug store, a bank, and several large chain stores on a plot 760 by 163 ft.

The eight-story tower, containing offices and service core, is a modification of the tower used by Grand Union on its stores across the country. It will be faced in cast stone, with continuous bands of windows rising on both sides and continuing all across the top story.

Exteriors are aluminum and glass.



Elmwood Shopping Center is planned for expansion for both owner and tenants



Factory and general office building for Powers Regulator Company at Skokie, Ill.

POWERS REGULATOR CO. BUILDS SKOKIE PLANT

SCHEDULED for completion next summer at the time of the company's 60th anniversary is a new plant for the Powers Regulator Company on its 13-acre site in Skokie, Ill.

Sessions Engineering Company of Chicago are architects and engineers for the building.

The new plant, which will contain 130,000 sq ft, is 575 ft long. The two-story office, test and research laboratory section, 290 ft wide, will have face brick and stone exteriors. It will be completely air conditioned.



Avoid Timber Rot, Peeling Paint, Crumbling Plaster

Asphalt Paper is Not Vapor Proof—Merely Waterproof

Unventilated walls with ordinary insulations which permit water vapor to seep through, condense and accumulate, can cause damage. Over a million dollars was recently spent in ripping out and replacing crumbling plaster walls in a tremendous brick and steel, nationally known, apartment development in Greater New York.

Vapor, a gas, flows through a wall, including plaster and asphalt, from high vapor density areas to low. Upon reaching a substance colder than its dew-point temperature, it condenses.

"Dew will not form on the walls and ceilings of a well-insulated house. But it may condense in the insulation in the walls or on the siding or sheathing. The insulation and wood then become damp. In time this dampness may cause the wood to rot, and the paint to peel off." U.S. booklet,* "Insulation and Weather-proofing," Page 11, Division of Farm Buildings and Rural Housing.

Multiple accordion aluminum is impervious to vapor and is non-condensation forming. Because of its slight mass, the aluminum sheet on the warm side quickly approximates the temperature of the contacting air; and never falls below the dew-point. Heat flow by inner as well as outer convection is blocked by the fiber and aluminum sheets. The air spaces practically eliminate conduction. The additional aluminum sheets reflect back 97% radiation on the warm side and emit only 3% on the cold side.

Because of low (3%) emissivity, the aluminum on the cold side is slightly warmer than the cold contacting air, so condensation on it is not possible. No dew-point is possible anywhere on or within the insulation.

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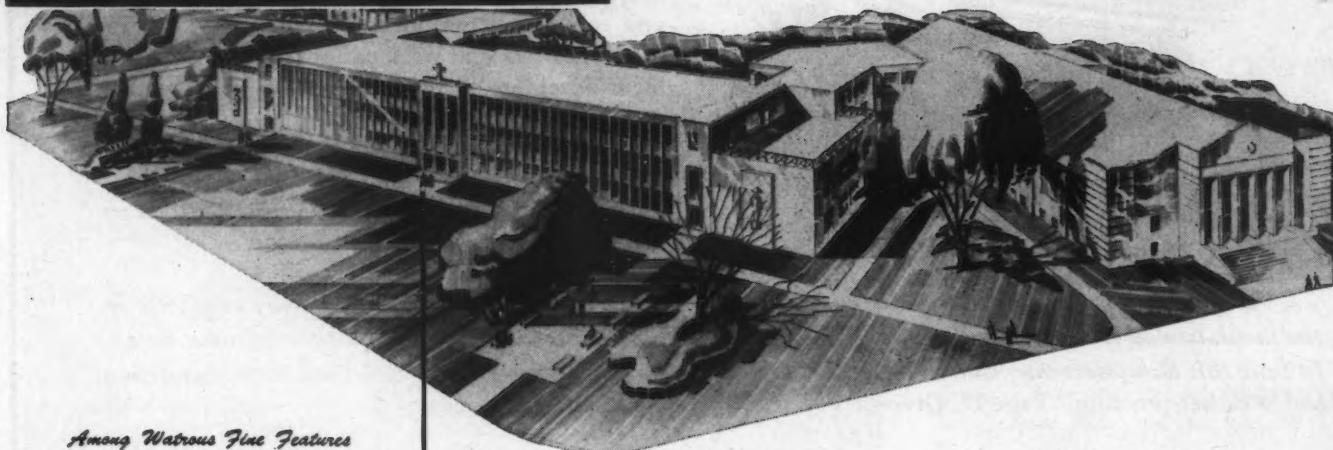
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NEWS FROM WASHINGTON by Ernest Mickel

Revision of NPA Order Banning "Amusement" Construction Follows Bitter Opposition from Industry; A.I.A. Keeps in Touch with Defense Plans; Federal Aid Programs Revised To Meet Budget Cuts; "Essential" Public Works Continue

RAPID DEFENSE developments in Washington during the past few weeks have cast new light on the place of architecture and contract construction in the war program. Taken as an immediate adjustment, or a long-range plan, the federal changes unmistakably spell out a significant change from the business-as-usual pattern. From now on, architects and contractors will do their future planning with this changing picture in mind. Probable material shortages — certain in the common metals — seem certain to be much in the news. Aside from metals, indications are that cutbacks in residential building will remove most material difficulties.

The architects are shifting their attention to federal defense programs. The National Production Authority has banned all further commencement of amusement, recreation and entertainment buildings. The NPA order (M-4) carried a direct threat that going construction of other types might be halted at a later date if it did not contribute to the defense effort. On the immediate complaints from the Associated General Contractors and other segments of the industry, the agency a few days later revised its M-4, removing the retroactive reference. Contractors said they were satisfied. But the fact remains that the control agency, with its broad authority flowing from the National Defense Production Act of 1950, has power to curtail construction drastically.

Section 22.12 of the Order lists 44 types of amusement, recreation and entertainment construction specifically prohibited. The regulation, which took effect October 27, also contains the catch-all phrase: "Any other recreational, amusement or entertainment purposes, whether public or private."

Washington Visits Unnecessary

The new personnel appointments in NPA are important to architects insofar

as the agencies' powers can be applied in the fields of building materials and construction controls generally. And as stated, those powers are broad.

James W. Follin, whose name is familiar to architects and engineers, is on loan from General Services Administration to head NPA's construction controls division. And John Haynes, another person familiar to the industry, will head the agency's building materials division. In these respective capacities, Follin and Haynes will serve under H. B. McCoy, assistant administrator of NPA in charge of industry operations.

The Follin section will deal with administration policy concerning the various limitation orders on construction. It already has made a thorough study of M-4 and its application to date. Staffs are being organized. Amendments to present orders are being studied.

Another name familiar to the building

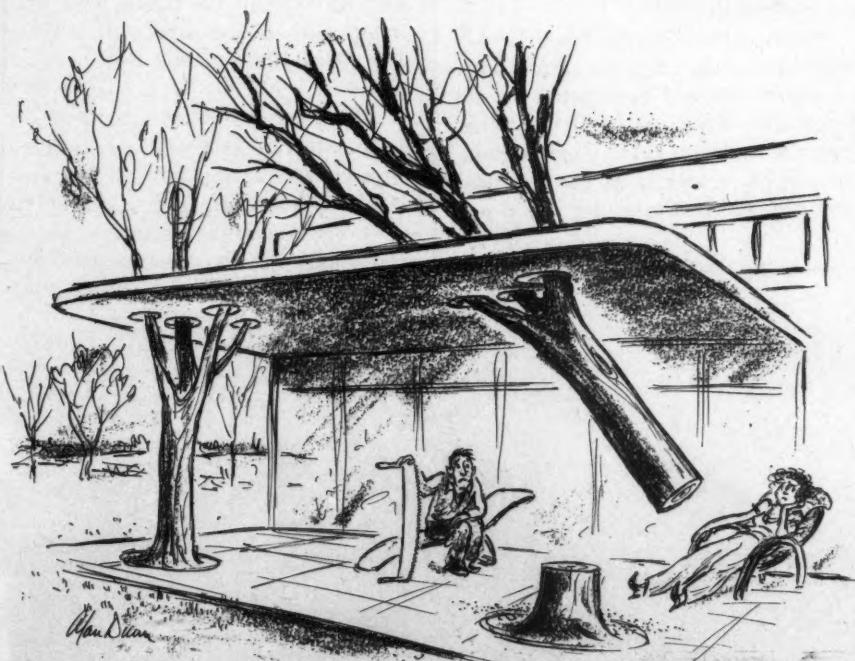
industry, that of Frank R. Creedon, former federal housing expeditor, appeared on the NPA appointment list. He was named to organize and direct a Facilities Clearance Staff to handle applications for certificates of necessity in connection with industrial expansion for the defense program. The applications, concerning a shortened amortization period for tax purposes, come over to NPA from the National Security Resources Board which makes the final determination.

While these important developments take place in Washington, architects are being advised it is not necessary for them to come to the nation's Capital to make inquiry about new commissions. The various bureaus and agencies have attempted to make all pertinent information available through field offices of the Department of Commerce (of which NPA is a part) and the General Services Administration, the procuring agent for the federal government.

A.I.A. Keeps in Touch

A complete inventory of the architectural profession is being established at A.I.A. headquarters here on I.B.M. cards. Returns to earlier questionnaires sent out to all registered architects concerning their experience and present capacity to serve the defense effort are still coming in and being tabulated at the Octagon. Further, A.I.A. has issued

(Continued on page 16)



— Drawn for the RECORD by Alan Dunn

THE RECORD REPORTS

WASHINGTON

(Continued from page 15)

a scratch list of federal agencies that are engaging outside architects for their projects now, or can be expected to do so at some future date.

For some months special emphasis has been placed on the plans for future development of Air Force bases. With approximately 100 master plans to be prepared, the architects are watching developments with keen interest. The construction of airport runways, buildings and appurtenances in this long-range effort may eventually involve expenditures of \$25 million to \$100 million in each case.

A pattern for selection of architects and engineers from the various professional fields may have been established for this long-range program in methods employed in naming designers for the new Washington, D. C., airfield. Here, Civil Aeronautics Administration considered naming a team of architects and engineers to collaborate on preparing plans for the \$14 million project. This new method of approach could set a precedent not only in its peculiar application to single projects, but in the field of mutual interest and cooperation among the professions as well.

Services represented on the Washington airport planning team included architectural, civil, electrical, landscape and mechanical.

The A.I.A. was advised by the Air Force that on the larger program a project architect would be selected by the major area command subject to final approval by Washington headquarters. Because of rapidly changing technical advances, the Institute said it did not

(Continued on page 18)



Photograph by Troller

King George VI School, Chatham, Ont., one of the buildings shown in the 1950 exhibition of Canadian Contemporary Art. Architect for school was Joseph W. Storey

NEWS FROM CANADA by John Caulfield Smith

Ontario Architects Report Public Relations Research

THE ONTARIO Association of Architects Committee on Public Relations, headed by Douglas E. Kertland of Toronto, has published an interesting report on the subject of architectural public relations. A summary of the results obtained from investigating current activities in the field reveals that:

"Architectural organizations in Canada, the United States and the United Kingdom seem to be well aware of the need to acquaint the public with what architecture is and what an architect does. Most have public relations programs.

"The common denominator is regard for architecture as a public service, and for architects as suppliers of that service. Invariably, emphasis is laid on the pre-eminent and unique place the profession occupies in the construction indus-

try. In other words, no other artisan or technician can be an adequate substitute for an architect.

"The R.I.B.A. public relations program is the oldest among those of the architectural bodies studied. Those of the A.I.A. and its larger chapters are more recent, and in some aspects far less conservative. For example, it is the custom in the United Kingdom to wait for the press to come to the R.I.B.A. seeking news. The most active A.I.A. chapters, on the other hand, initiate events to secure press space.

"The R.A.I.C. depends for its public relations program on the Standing Committee on Public Information. Considerable work has been done under various chairmen, but it is difficult to measure what has been accomplished. This is always the case with public relations activities. Achievements cannot be

(Continued on page 210)



Toronto Public Library Photographic Service

This branch public library for Toronto represents "a milestone in library planning." Ground floor houses adult circulating library and three retail stores. Second floor accommodates the boys' and girls' library and some office suites. Third floor will be all offices. Rental income from offices and stores is expected to amortize capital cost in 20 years. Beck and Eadie are architects

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WASHINGTON (Cont. from p. 16)

necessarily follow that past experience in design of airfields should be the prime reason for such selection. It made the suggestion that associations of engineering specialists under the leadership of an architect might be considered.

The Institute's committee also recommended that architects be selected as acceptable on the basis of qualifications and ability to perform. The preferred architect would then be called in for

complete negotiation on one of the following two bases:

1. Provided full scope, cost of construction and performance time can be established, a lump sum contract can be agreed on.
2. Where project is of indeterminate nature as to scope and/or performance time, the compensation should be on the basis of a fixed fee plus reimbursable expenses.

If this first negotiation is not successfully completed, it was suggested that it be permanently terminated, and the next acceptable architect called in for negotiation.

This is but one of the "defense fields" in which architects are showing special interest as the emphasis changes to defense projects.

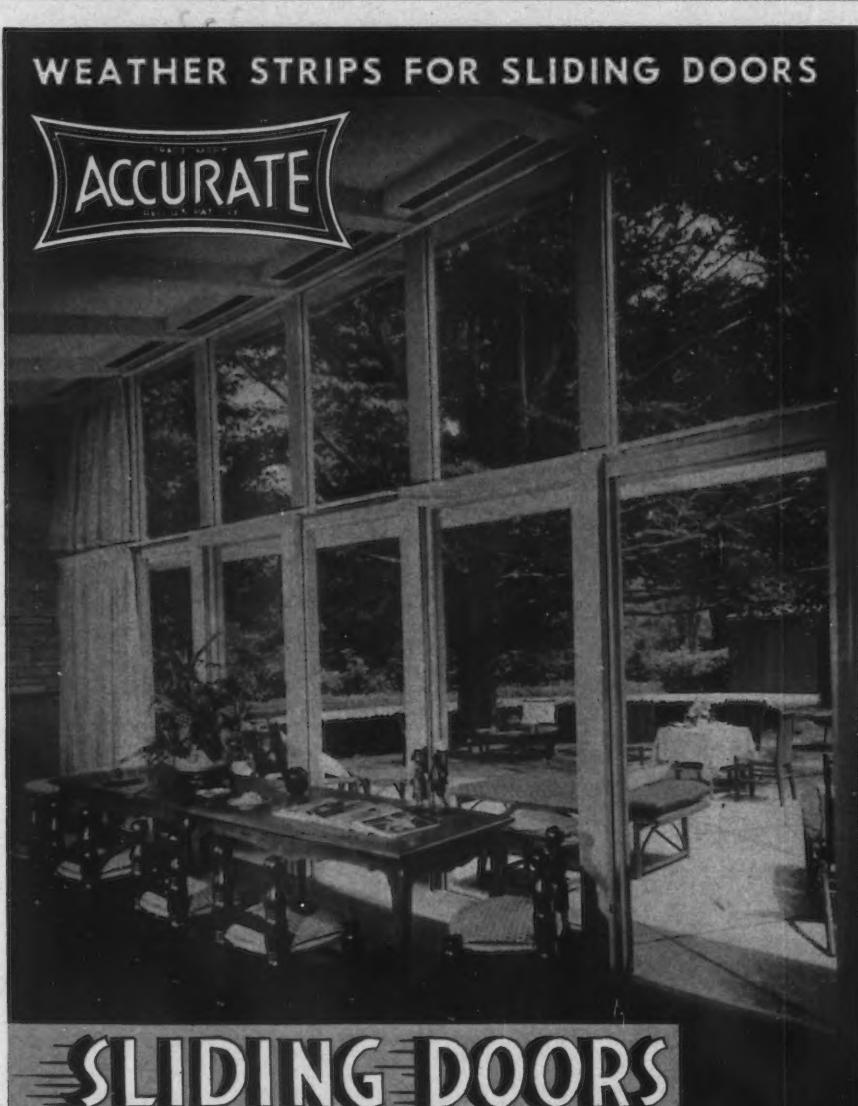
Budget Bureau Trims Widely

Another program important to architects that will not be crippled badly by the budget cut is the Community Facilities Service advance planning for non-federal public works. Housing Administrator Raymond M. Foley has announced that the program will be realigned with project applications brought under two new criteria. Now, the CFS staff is weighing applications in the light of (1) whether projects contribute directly to defense; and (2) whether projects meet essential and immediate civilian requirements.

Savings under this new approach are estimated to be \$15 million in the fiscal year. Approximately 700 applications for the interest-free loans to help states

(Continued on page 20)

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This residence, for which Emil A. Schmidlein, Orange, N. J., was the Architect, typifies the definite trend toward sliding doors opening on terrace or patio. Doors that need no "swing back" wall space and are 100% weather and termite proof. Doors that open and close smoothly, quietly, easily, because they are fitted with "Accurate" patented metal weather stripping—the recognized material to do this job *right*. There's no substitute. Write for working drawings—or ask for illustrated folder.

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Design Data Needed by Nuclear Science Group

Architects who have designed or completed projects involving facilities for the use of radio-active materials are being asked to inform the A.I.A. Committee on Architecture and Nuclear Science.

The committee, which also seeks a list of architects who have worked on projects of the Atomic Energy Commission, is collaborating with A.E.C. and other technical groups to compile information for architects on design of projects requiring facilities for handling products of nuclear fission.

Information should include a brief description of the projects, the special purposes of the buildings and related problems, like housing for experimental animals, etc.

Communications should be addressed to: Committee Chairman Thomas K. Fitzpatrick, Iowa State College, Ames, Iowa, with copy to Department of Education and Research, the Octagon, 1741 New York Ave., N.W., Washington 6, D.C.

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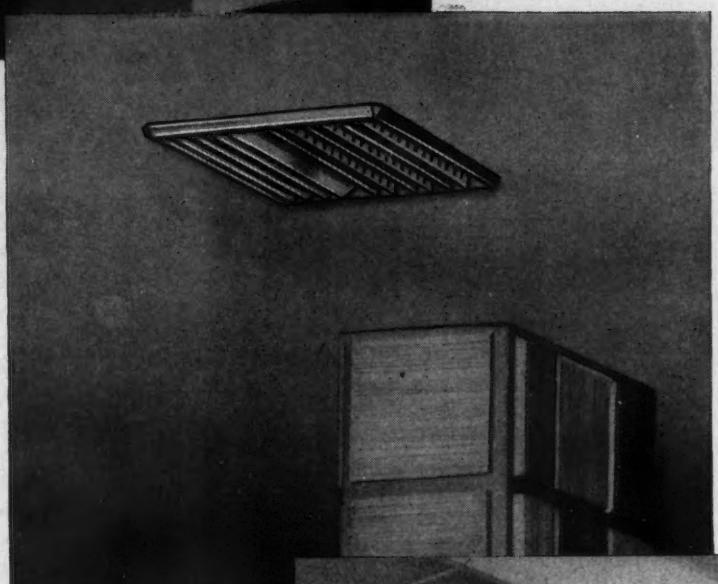
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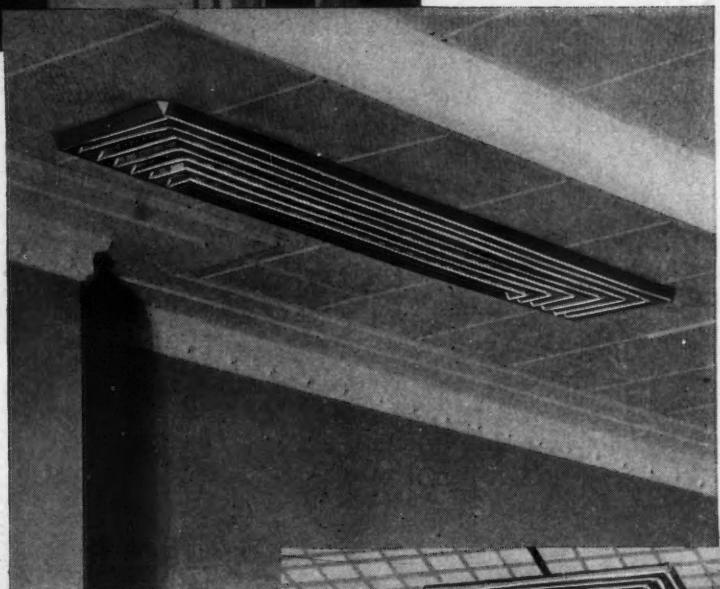
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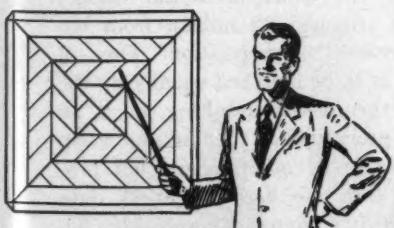
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and their political subdivisions plan non-federal public works are on file in CFS field offices and in the headquarters office here. All are being restudied under the new criteria.

Budget Bureau, in making its general reduction in the 1951 appropriations bill, slashed the program \$15 million. Congress has provided \$47 million for fiscal 1951. But another \$10 million has been reserved for release if need war-

WASHINGTON (Cont. from p. 18)

rents. This means it can be used during the fiscal period if emergency situations warrant. Potentially, this leaves \$32 million that could be used; \$22 million assured for orderly continuation of the planning of these schools, streets, sewers, waterworks, hospitals, municipal buildings and other non-federal projects.

Commissioner Pere F. Seward has directed his field offices to consider applications for projects which meas-

ure up to this definition of essential civilian requirement: any public works "the lack of which would seriously impair the health or lives in the community, or deprive the community of the minimum public facilities required to meet the basic American standards of living, transportation or commerce." Upon broad interpretation, this could leave the door open for many projects that at first glance would appear to be barred in the realignment order from Mr. Foley.

(Under a Presidential reorganization plan approved by Congress, CFS was transferred some months ago from the General Services Administration to the Housing and Home Finance Agency.)

In all, 31 departments and agencies felt the economy wind blowing out of the Budget Bureau. The fiscal authorities cut a total of \$580,271,335 from the fiscal 1951 appropriations act — at the direction of Congress itself — and placed the amount in reserve status. Congress had required that it trim the over-all amount by not less than \$555 million.

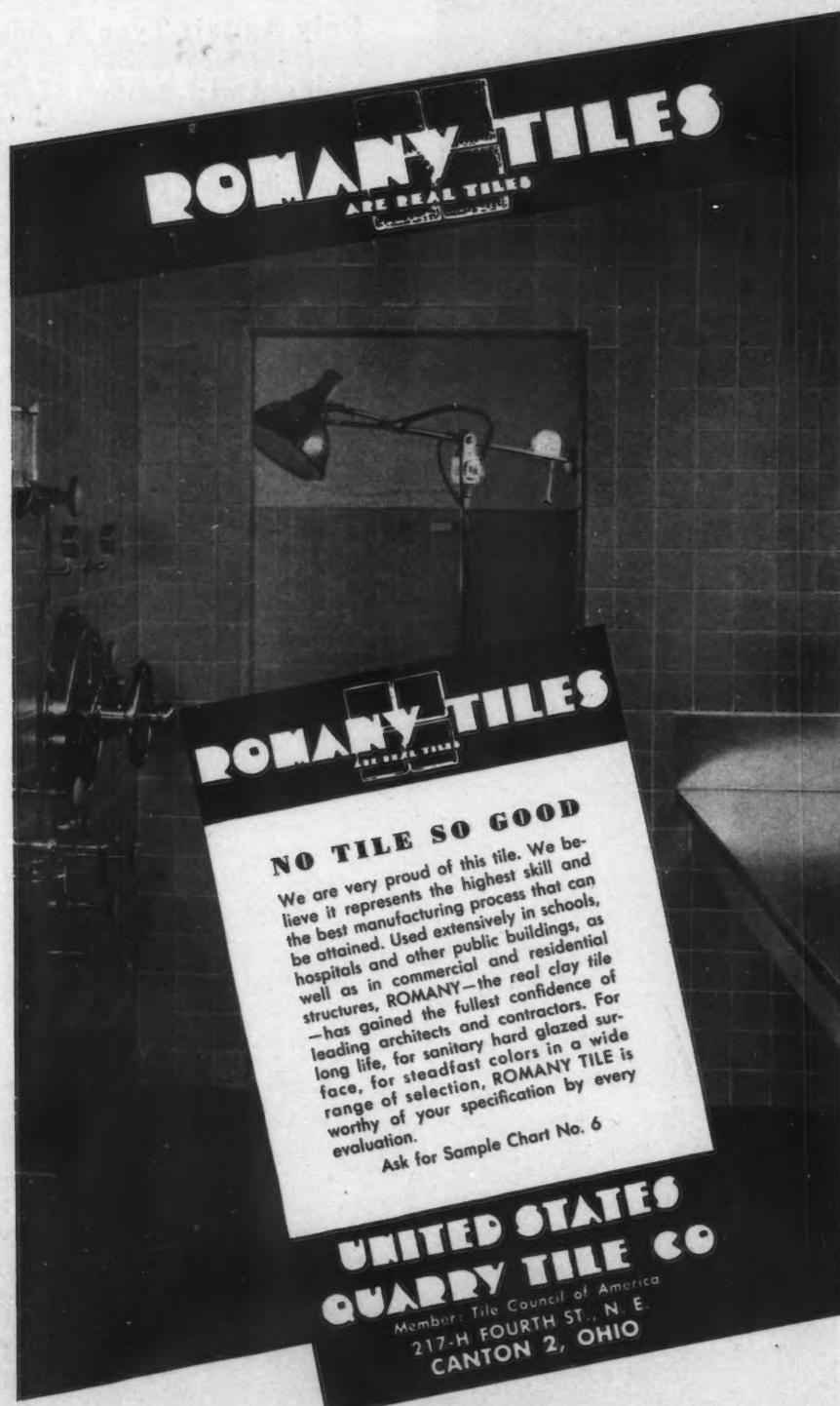
Here are examples of how some of the planning and construction programs were affected: Housing and Home Finance Agency was cut \$15,750,000 in total; Agriculture's rural electrification loans, \$66,427,000; Farm Housing loans, \$24.5 million; Army's Corps of Engineers, \$50 million; Interior's Reclamation and power marketing agencies, \$56,950,000; General Services Administration, \$21.5 million.

School Construction Needs

The state-by-state survey of school inventory and school construction need will go forward but with some limitations. The U. S. Office of Education was left with \$3 million for federal contribution to the effort after the Budget Bureau trimmed \$2 million from the Congressional appropriation. This \$3 million is to be matched equally by the states themselves, resulting in a \$6 million program if all the funds are used.

Unlike many other federal aid programs, this one has no cut-off date specified by Congress. Presumably, the Office of Education will determine the period in which funds will be allocated. (Dr. Ray Hammond of this office is expected to handle details of the program.)

Before the work actually gets underway, officials will confer here with experts in the educational and building fields. They want to learn more about



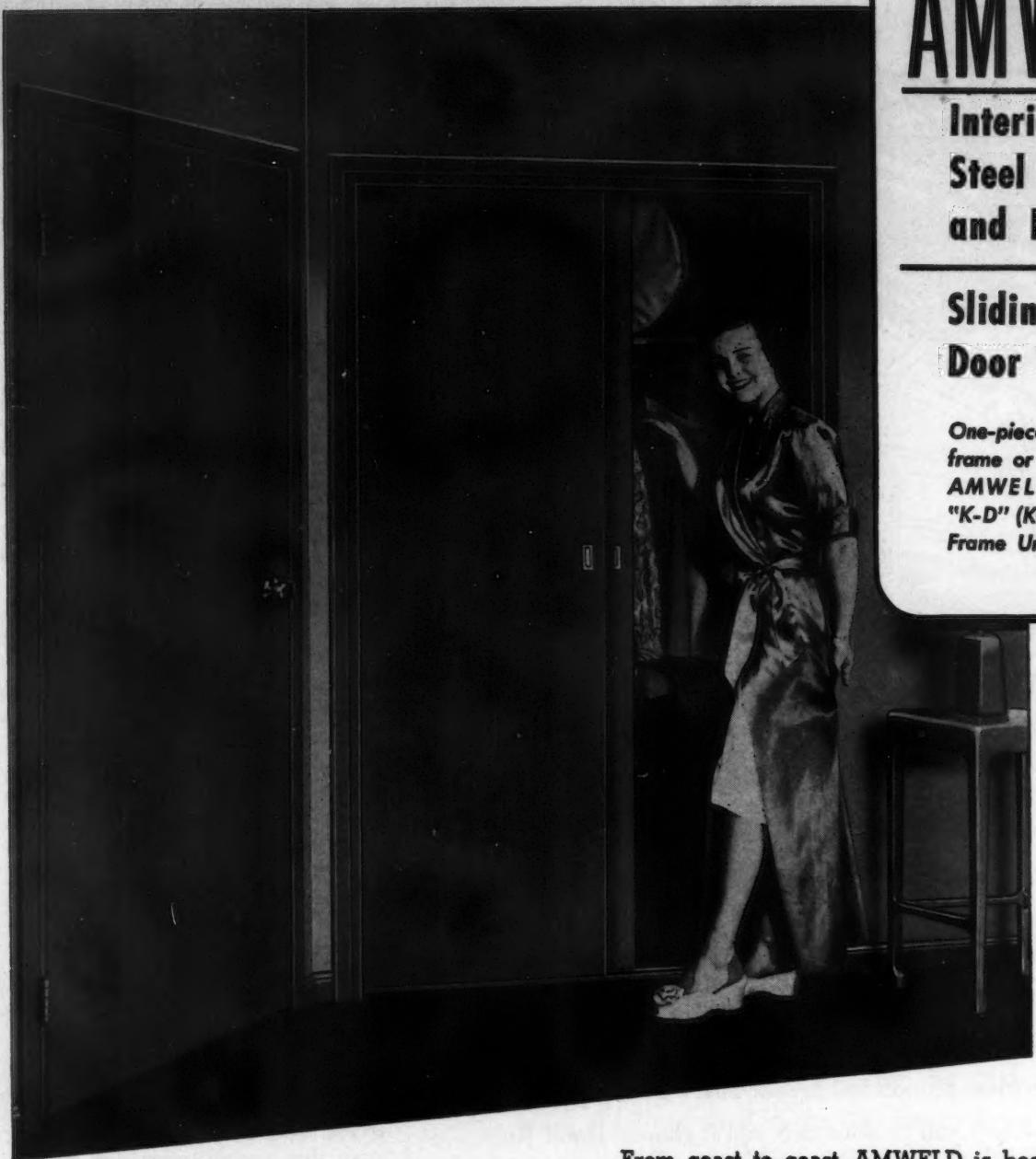
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WASHINGTON

(Continued from page 20)

school construction standards and details of general need than now are known. Most immediate objective is a general process for obtaining data required — how much school plant is needed and where it should be erected. Formats of a general nature will be worked out toward this end. After the general definitions are laid down and summarized, the program can move into the actual count of existing school facilities, the inventory phase. Then will follow the estimate of need, the number of new classrooms that must be built to accommodate adequately the growing student population.

(Note: The national school plant need has been estimated in a very general way at \$1 billion per year for the next 10 years. And this estimate was made when construction prices were considerably lower than they are right now.)

Final step in this tentative program of the Office of Education would be selection of actual site locations, where the new schools are to be placed.

Inventory and estimate must be both quantitative and qualitative, which poses a pretty large problem for the federal authorities. They plan to leave the big end of the inventory and need estimates job to the states themselves.

The officials are faced immediately with this problem — Congress did not provide for re-use of state allocations which state school bodies decide not to accept. Attorneys have read the law to mean that any allotment thus refused by a state must revert to the Treasury and cannot be reallocated. Some states are bound to turn down the offer of federal aid, it is believed. Still another reason the program will be slow in getting started is that many state legislatures, most of them in fact, do not convene until January. And it will take legislative action in many instances to appropriate state monies to match the federal aid.

Various bills were introduced in Congress looking toward relief of the critical classroom shortage. However, the only one enacted into law which provided actual construction funds was that authorizing direct federal assistance in erection of buildings in defense-industry areas.



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Public Housing Penalized

Rising construction cost has been no respector of the federal government's public housing plans. Congressional authorization for construction of 135,000 low-rent public housing units each year for six years came as early as 1949; in the Housing Act of that year. But an unusual lethargy has restrained the program to this date. And now high building costs are slowing progress to a walk.

The Housing and Home Finance Agency, of which the Public Housing Administration is a part, expected the program to move slowly. But officials concede they had hoped for a much more rapid pace than is being reported.

The first official cutback came shortly after the Korean outburst. President Truman ordered that only 30,000 units be constructed during the last half of 1950. (The Chief Executive can lower the output as far as he likes, and raise the total number at his own discretion up to a top limit of 200,000 units per year.) But this check on volume was as nothing compared to the influence of high building prices.

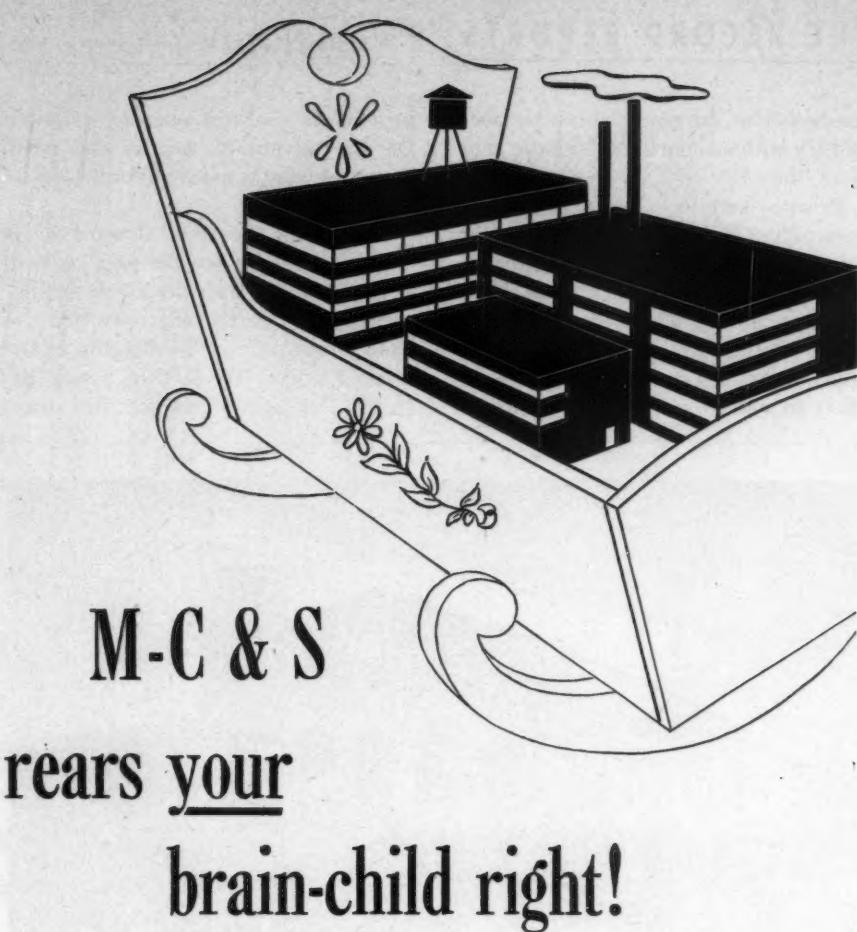
All this gives rise to a disturbed feeling among architects because the trend obviously is toward simplification of plan to bring contemplated developments within the pocketbooks of the local housing authorities — and, not so incidentally, to look toward future justification of outlays before Congress.

PHA is authorized to spend \$363 million each year of the program to subsidize rents in the public housing projects to furnish adequate housing for those who can't afford private dwelling space.

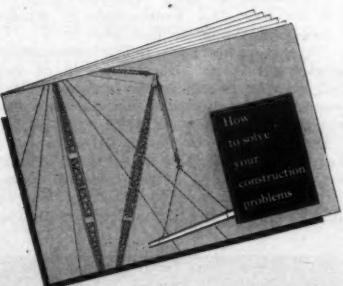
But the greatest problem now arises from what local authority units can and cannot get for their money. Too many of these local groups have failed to be realistic about their plans; and this has PHA in a tizzy because it is forced to reject a large proportion of plans submitted — send them back for redoing.

The public officials in Washington have a point in urging the local bodies to cut out the frills and too-elaborate planning. Some layouts have been received showing carports and other extravagant features the PHA people hardly would dare to approve on a low-rent public housing project. Frequently these plans are returned to the local authorities who are told to cut off the fancies, get other bids, and resubmit to Washington. Surprisingly, many of the

(Continued on page 24)



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resubmissions are approved on the second try without much loss to basic plan ideas, the PHA said.

Private architects, however, have been telling Commissioner John Taylor Egan about the danger of too great a sacrifice in the redesigning process. They see important values lost in minimizing space. The agency's new density standards for various types of buildings — an effort to reduce site and site improve-

WASHINGTON (Cont. from p. 23)

ment costs — also is open to question. On the advantage side is the move toward setting a more uniform basis of cost estimating.

PHA feels the trend toward over-elaborate designs on the part of local authorities and their architects is fully as important in the relatively high rejection ratio here in Washington as the inflated costs. To further assess the trend, the agency studied five main

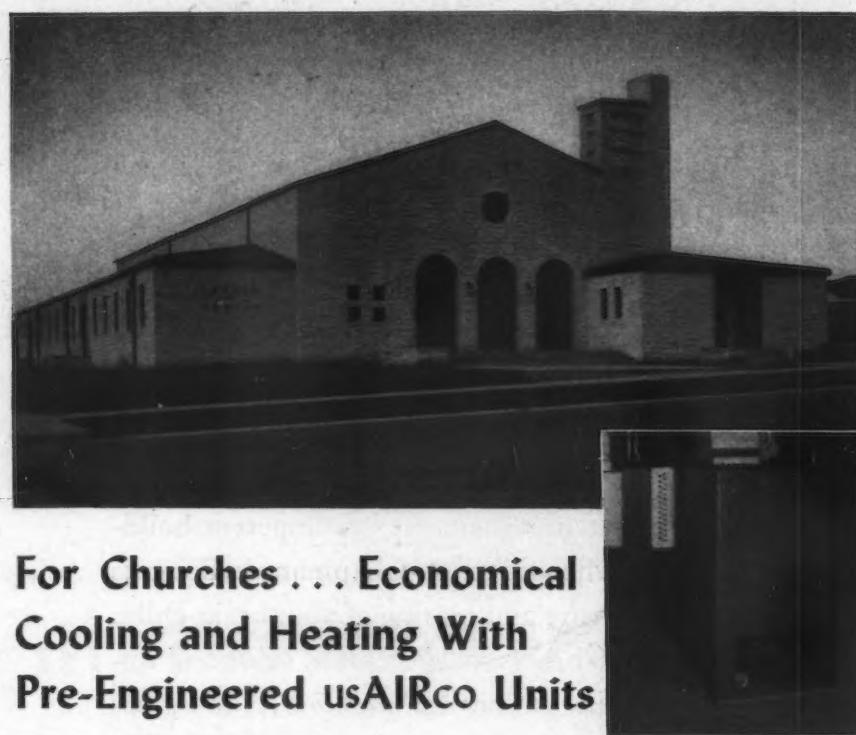
phases of 100 projects submitted for approval. These elements were site plan and type of building, dwelling layout, dwelling space, construction type and finish.

The phases were rated independently, meaning 500 elements were evaluated in all. Of these, 148 were rated expensive or very extravagant and resulted in 52 of the 100 projects surveyed being ruled out on the basis of undue costs.

A month ago, PHA had given final approval to 162 low-rent public housing projects. Final construction of these will involve approximately 50,000 units, one third of which will be placed in New York and New Jersey.

As of October 20 last, President Truman had approved PHA loans to local housing authorities for preliminary planning of 283,676 units. The loans totalled \$53,661,000 and reached into 601 localities. These preliminary planning loans permit the local groups to contract for surveys, preparation of plans, and all such work except the final drawings.

Housing of this type is built, owned and operated by the local housing groups, though Washington keeps close tabs on each project because of its considerable financial interest in the subsidized rents. The loans being approved by the President now are to cover construction contemplated during the next two years. PHA enters into preliminary loan contracts with the local authorities as soon as possible after the approval from the White House so advance preparations can get underway.



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No Group Deferment of Architects Sought: A.I.A.

• Organized architects are not seeking wholesale deferment of their member eligibles from military service. Here is the policy as outlined by the National Defense Committee of the American Institute of Architects: "There should be no thought of group deferment, as other professional groups have sought group deferment. Always there will be individuals in exceptional situations whose military service the national interest may indicate should be deferred. But architects as a group, and architectural students as a group, cannot hope to place their professional interests above those of national service."

(News continued on page 194)

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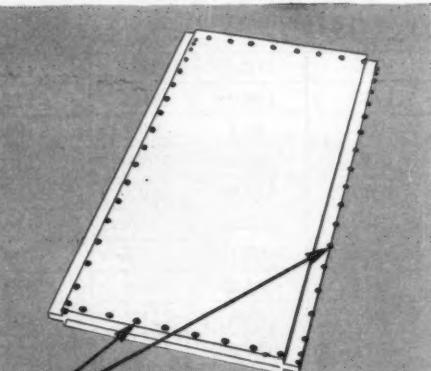
Solidity and permanence are achieved by exclusive Mills features like all-welded panel construction and sound-deadened panel surfaces. They are insulated and sound-proofed, and correctly engineered for structural stability. Of refined architectural design they are available in a wide range of attractive colors in baked-on finishes specially treated to eliminate harsh light reflection.

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We'll be glad to send you a 48 page easy-to-read booklet that will give you full details. Just ask for Mills Catalog No. 50.

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*Bulldog Electric Products Co., Detroit, Michigan
Architects: Jabs & Lyman*



A CASE IN POINT

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SPECIFY MILLS FOR

All-Welded Panels • Sound Dead Surfaces
Glareless Finishes • Scientific Sound-proofing • Easy Erection • Maximum Mobility
Superior Architectural Design



CONSTRUCTION COST INDEXES

Labor and Materials

United States average 1926-1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corp., from data compiled by E. H. Boeckh & Assocs., Inc.

NEW YORK

Period	Residential		Apts., Hotels	Commercial and		Residential	Apts., Hotels	Commercial and		
	Brick	Frame	Office	Factory Bldgs.	Brick		Office	Factory Bldgs.		
			Bldgs.	Brick	Brick		Bldgs.	Brick		
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6		
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5		
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0		
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1		
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9		
1945	160.5	161.7	156.3	158.0	155.4	132.1	133.9	123.2		
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8		
1947	219.3	222.0	207.6	207.5	203.8	180.4	184.0	158.1		
1948	250.1	251.6	239.4	242.2	235.6	199.2	202.5	178.8		
1949	243.7	240.8	242.8	246.4	240.0	189.3	189.9	180.6		
July 1950	261.3	261.0	251.1	252.6	250.0	195.4	198.2	183.8		
Aug. 1950	264.5	265.0	252.1	253.3	251.1	201.5	204.1	188.9		
Sept. 1950	266.0	265.5	254.9	256.9	252.7	199.1	200.9	189.4		
	% increase over 1939					% increase over 1939				
Sept. 1950	115.4	116.9	95.0	92.6	94.2	130.7	141.8	99.2	92.6	101.4

ST. LOUIS

1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1945	152.8	152.3	146.2	148.5	145.6	146.2	144.3	144.5	146.8	147.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
1947	202.4	203.8	183.9	184.2	184.0	193.1	191.6	183.7	186.8	186.9
1948	227.9	231.2	207.7	210.0	208.1	218.9	216.6	208.3	214.7	211.1
1949	221.4	220.7	212.8	215.7	213.6	213.0	207.1	214.0	219.8	216.1
July 1950	237.1	235.0	223.9	227.7	223.9	232.6	229.7	224.0	225.6	224.1
Aug. 1950	240.0	238.6	224.9	228.6	225.0	236.7	234.8	225.4	226.1	225.1
Sept. 1950	240.2	238.8	225.5	229.0	226.4	236.2	234.1	225.6	226.2	225.6
	% increase over 1939					% increase over 1939				
Sept. 1950	118.0	123.2	90.0	91.2	90.3	123.7	135.8	92.2	85.6	93.6

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926-29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110

index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926-29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

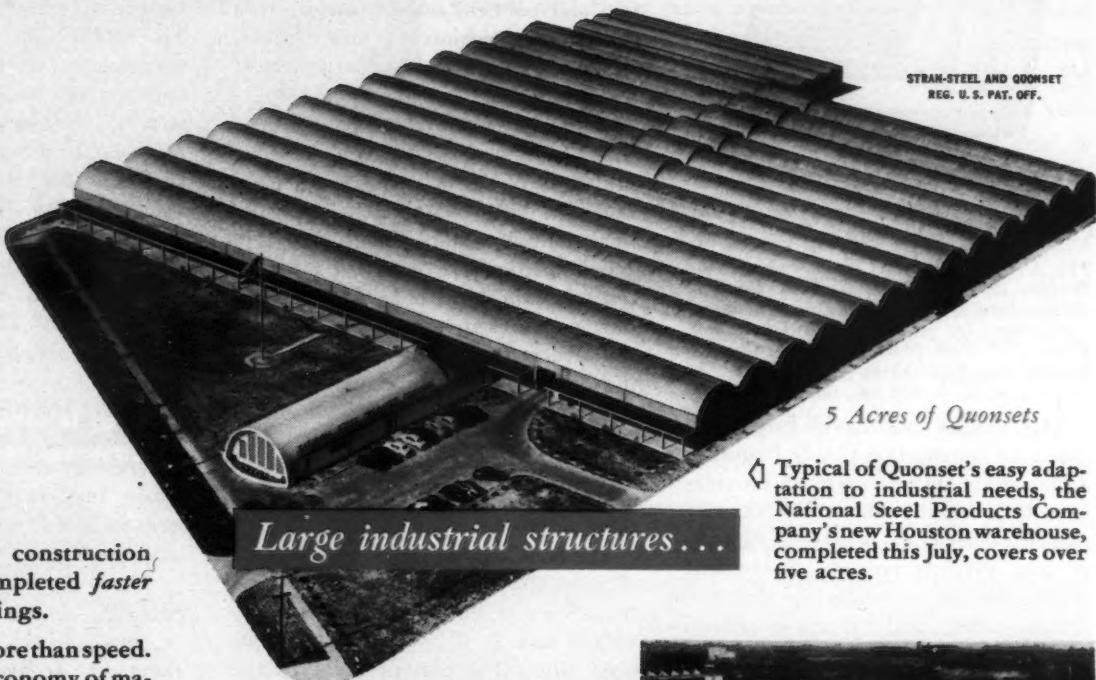
These index numbers will appear regularly on this page.

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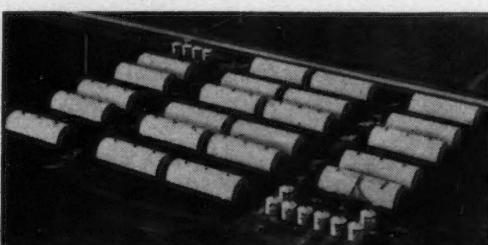
5 Acres of Quonsets

Typical of Quonset's easy adaptation to industrial needs, the National Steel Products Company's new Houston warehouse, completed this July, covers over five acres.

... and smaller ones, too!



The Arco Company, producer of industrial paint, needed maximum fire safety for its lacquer manufacturing division at Cleveland. It chose Quonset buildings, centering production in the Quonset 40x80 in foreground. Nitrocellulose and other combustibles are stored in nearby smaller Quonsets.



An example of Quonset speed

88,000 SQUARE FEET OF STORAGE SPACE
COMPLETELY BUILT IN ONLY 45 DAYS
— This grain storage depot at Beresford, S.D., was part of last fall's Department of Agriculture program. More than 2,500 Quonsets were erected at 803 different mid-western locations, providing storage space for over 80 million bushels.

NATIONAL STEEL CORPORATION



REQUIRED READING



CITY PLANNING

The Urban Pattern. City Planning and Design. By Arthur B. Gallion, Dean of Architecture at the University of Southern California; in collaboration with Simon Eisner. D. Van Nostrand Co., Inc. (250 Fourth Ave., New York, N. Y.), 1950. 7½ by 10½ in. xi + 446 pp., illus. \$12.00.

This volume might well have been titled *An Introduction to City Planning*. Although the author's approach provides a realistic survey for architects, city planning officials and other professionals, it most certainly presents an excellent overall picture of urban development for the student and the serious general reader. The factors that have confronted and conditioned the evolution of the city are set forth from its earliest beginnings in civilized societies, and the discussion of these influences is supplemented to an extraordinary degree by profuse and well-chosen plans and photographs. An outstanding feature of the illustrations is the use of extended analytical captions which greatly facilitate subsequent detailed study of a particular point without interrupting the broader discussions of the running text.

The authors point out that few cities in which great cultures have thrived began with a plan. Their growth has been dynamic and sensitive to changes in the interests of the citizens. As Dean Gallion, in his preface, says, ". . . it is apparent that the social order of the times has invariably fixed its impression upon the shape—the form and arrangement—of cities. The cities we build today are the great designs produced by our democratic society; the urban environment—the living and

working environment of the whole urban population—is linked with the welfare of democratic institutions. Nearly every enterprise in which people engage, whether it is domestic or production and trade, is affected by and, in turn, shapes the design of cities. Real estate and finance, the social sciences and economics, the law, public administration and political science, architecture and building, engineering and the arts, all are woven into the physical pattern of the city."

A principle tenet of the book is that cities are growing ". . . less and less desirable as places in which to live and work. . ." The factors contributing to this state of affairs are analysed in detail, particularly as they influence the major problem of congestion, and some measures are proposed for the control of density and obsolescence within the framework of existing facilities. Although the complete practicability of the proposed measures is certainly open to debate, they nevertheless indicate a path well worth further exploration.

The book espouses no defeatist point of view. The authors are not advocating breakdown of the city nor a return to village size. It is granted that people need cities. The current flight to the suburbs indicates that "People are retreating from congestion, but they want and are retaining, the advantages of an urban environment. Despite the desirable characteristics of refuge in rural surroundings, the urban framework forms the basic employment pattern of our industrial society. The role of cities is more vital today than ever before. They provide the range and diversification of employment essential to a free existence of the people. Our task is not destruction of the city, it is to build a better one."

ILLUSTRATION TECHNIQUES

Illustrating For Tomorrow's Production. By J. Harold Farmer, Abbott J. Hoecker and Francis F. Vavrin. The Macmillan Co. (60 Fifth Ave., New York 11, N. Y.), 1950. 6 by 9½ in. 203 pp. \$5.00.

Translated into an architectural idiom, this manual comprises a handy guide for the preparation of simple presentation drawings and renderings intended

for reproduction. The text, as written, deals specifically with industrial and mechanical illustrating, but the basic principles can be applied equally well to architectural work.

Material for the book was drawn chiefly from a series of production illustration courses which were taught by the authors under the auspices of the University of Texas War Training Program. The first section, dubbed the "kindergarten department," gives graphic short cuts for the various methods of projection—orthographic, isometric, oblique and perspective. Shades and shadows and freehand drawing are treated briefly.

The second half is concentrated on methods of making illustrations which reproduce well and economically, in printed form. The authors also give the fundamentals of the various reproduction processes, and comments on their uses. The concluding chapters deal with drawing for aircraft illustration, advertising, and industrial design. The entire text is clearly and concisely written, and is amplified with a wealth of illustrations.

SHOPS

The Specialty Shop. A Guide. By Jose A. Fernandez. Architectural Book Publishing Co., Inc. (112 West 46th St., New York 19, N. Y.), 1950. 8½ by 11 in. 304 pp., illus. \$12.50.

Jose Fernandez, A.I.A., has compiled a guide to the specialty shop which will be useful to the architect as a summing-up in the field. In the foreword to the book Dean Leopold Arnaud says that it offers a resume of what has been done in the store field to date as well as indicates what is going to be done in the future. He further states that it should be of great help both to the prospective store builder and architect. The book points out the advantages of having an architect doing a job, and establishes a certain basis for rapport between architect and builder.

A combination of ideal conditions (funds, location, talented store architect) seldom occurs, admits Mr. Fernandez, and the best thing to do is to make the best use of less than ideal conditions. He has presented stores that accomplish just this, showing ex-

(Continued on page 30)

INSULATED METAL WALLS

for INDUSTRIAL and COMMERCIAL BUILDINGS
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Leaders in Lighting Since 1902

REQUIRED READING

(Continued from page 28)

amples of many contemporary stores, certain features of which make each worthwhile.

Usual topics in a book such as this are dealt with: the architect's problems, the store front, sign, awnings, interiors layout, staircases, lighting, color, display, salon and little types of shops, concealed functions and all the rest. The treatment presentation is direct; the author wastes no words, his text purposely being minimized in order to permit maximum space for pictures, plans and details. The specialty shops vary from the modest to the ultra-swanky, yet nearly every time the emphasis has been placed on the functions of each: what it is selling, and how best this has been accomplished. Among the last 50 pages are miscellaneous drawings including scale details taken from examples previously cited in the text.

LETTERS AND ART

Lettering. The History and Technique of Lettering as Design. By Alexander Nesbitt. Prentice-Hall, Inc. (70 Fifth Ave., New York, N. Y.), 1950. 7½ by 10½ in. xvii + 300 pp., illus. \$6.00.

In an artistic field so familiar that often its nuances evade the even sensitive eye, Alexander Nesbitt's general reader is initiated to a concept of lettering that transcends "skill." Sometimes we tend to think "neat lettering," noticing a few lines at the bottom of a drawing, but it is not often that we consider a lettering job as part of an artistic presentation as a whole, whether it is from an architect's plan or a book's page. The author has considered lettering from the first as an intrinsic part of graphic design and not merely a necessity but second-rate artistic value.

In Part I (The History of Letters) Mr. Nesbitt adds up the contributions to letters by prehistoric, Greek, Roman, Gothic, Humanistic times to the present, showing carry-over of influences and developments.

The second part of the book (A Practical Course in Lettering) is concerned with instruction alone. The techniques and methods given in the text are illustrated by full page plates which carefully designate such details as strokes, holding the pen or brush or pencil, etc. "Lettering with the Broad Pen," "Built Up Letters," "Exercises in Script," "Problems of Integration" and "Poster Design" are the chapters of Part II.

(Continued on page 32)

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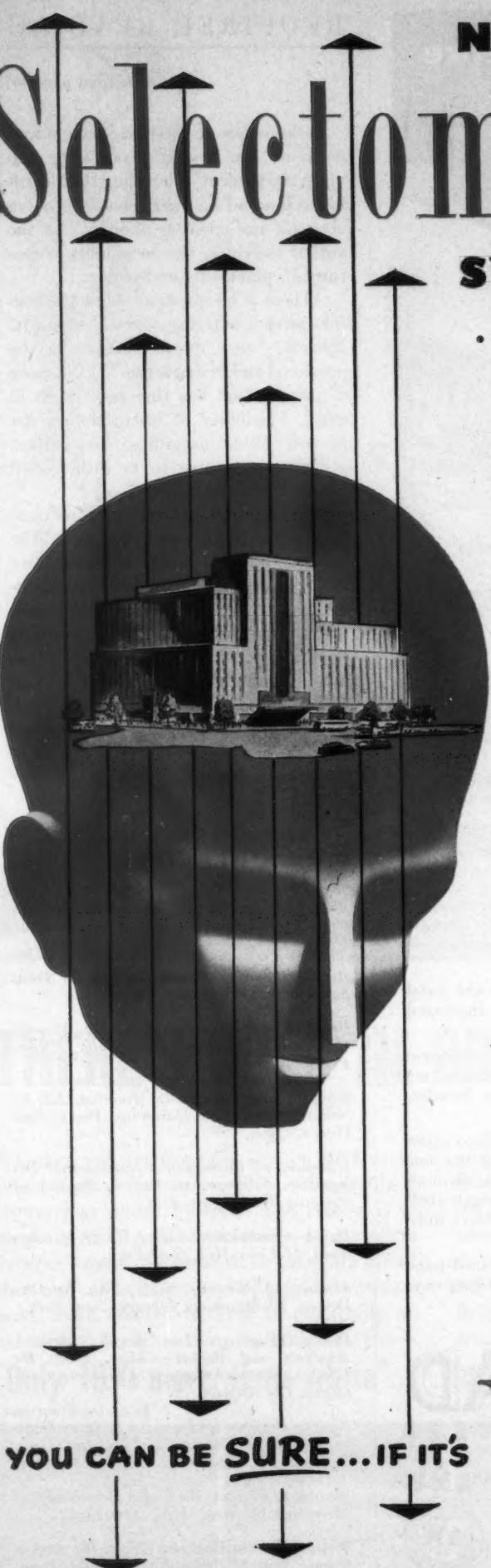
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SEE IT TODAY—right in your own office! See and hear how Selectomatic PLUS Synchro-Glide Landing solves elevator traffic problems. Write on your letterhead and we'll gladly arrange a showing of our new, sound motion pictures "Speeding Vertical Transportation with Selectomatic Elevators," and "Synchro-Glide Landing for Elevators." Elevator Division, Westinghouse Electric Corporation, Dept. D-1, Jersey City, N.J.



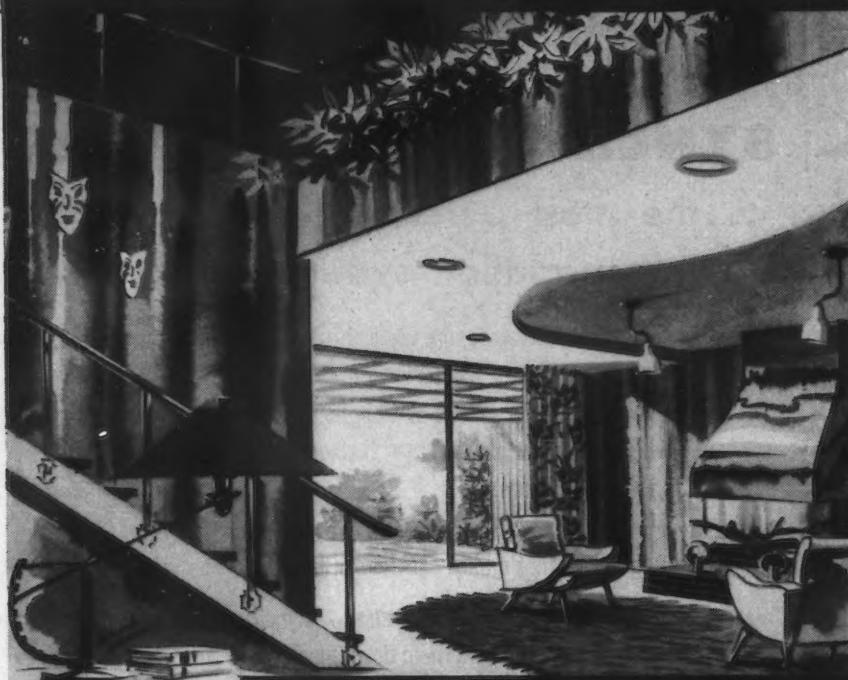
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PERMACLAD is noted for its eye appeal and corrosion resistance. This is why more and more architects are specifying PERMACLAD for modern building facades, doors, panels, shower stalls and interiors.

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A.W. ALGRIP ABRASIVE Floor Plate • A.W. SUPER-DIAMOND
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REQUIRED READING

(Continued from page 30)

Perhaps one of the best services rendered by Mr. Nesbitt's book is to convince the student of lettering that learning technique is not, in the last analysis, a curb on his creative abilities. As the author indicates, the personality comes through practically everything.

"There is no question about the usefulness of a lettering course," says Mr. Nesbitt, "as a means of training the eye, hand and design sense." His manner of presentation has this very much in mind. Flexibility of instruction is deliberate and, according to author, permits the course to be either used alone or expanded.

The scope and background of information is extraordinarily thorough. The entire project is scholarly, instructive and well put together. Although experienced architects may have little need for schooling in this field, the beginning student will find the volume more than helpful both in defining styles and in giving instruction. For both, the book will be of interest from the historical point of view as well as in its concept of lettering as design.

BOOKS RECEIVED

Annual Report of the Smithsonian Institution. Smithsonian Institute, Washington, D. C.

Architecture of the Southwest, The. By Trent Sanford. W. W. Morton Co.

Building for Modern Man. By Thomas Creighton. Princeton University Press, Princeton, N. J.

Evolutionary Thought in America. Ed. by Stow Persons. Yale University Press, New Haven, Conn.

Handbook of Correctional Institutional Design. U. S. Dept. of Justice, Bureau of Prisons, Washington, D. C.

House Construction Costs. By G. Underwood. McGraw-Hill, New York.

Mosaics of Norman Sicily, The. By Otto Demus. Philosophical Library, New York.

Public Housing — Los Angeles Area — Analysis and Report — May, 1950. By Housing Research Council of Southern California, Los Angeles.

Solving Parking Problems. A Guide to Community Action. Bureau of Planning, Dept. of Commerce, Albany, N. Y.

Structural Plastics. By Engle, Hemming and Merriman. McGraw-Hill, New York.

Writing for the Business Press. By Arthur Wimer. Wm. C. Brown Co., Dubuque, Iowa.



Fixtures illustrated in SKY BLUE are: Cadillac recess tub with mixometer shower fitting; Emerson twin lavatories and Prince reverse trap closet combination.

THERE'S GOLD IN BRIGGS *Beautyware* IN COLOR

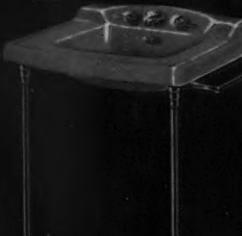
Whether you feature only one or all four of Briggs famous decorator colors—the result is always *plus profits* for you! The reason is as simple as ABC! A: Modern families *want* colored fixtures—even though most of them are afraid they can't afford the cost. B: Briggs Beautyware gives them colored fixtures at practically *no* extra cost! C: When they find this out, you—

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Porcelain Enamel
Steel



B-3230H
Sandstone
Vitreous China



B-3330H
Sea Green
Vitreous China



B-2210H
Ivory
Porcelain Enamel
Steel



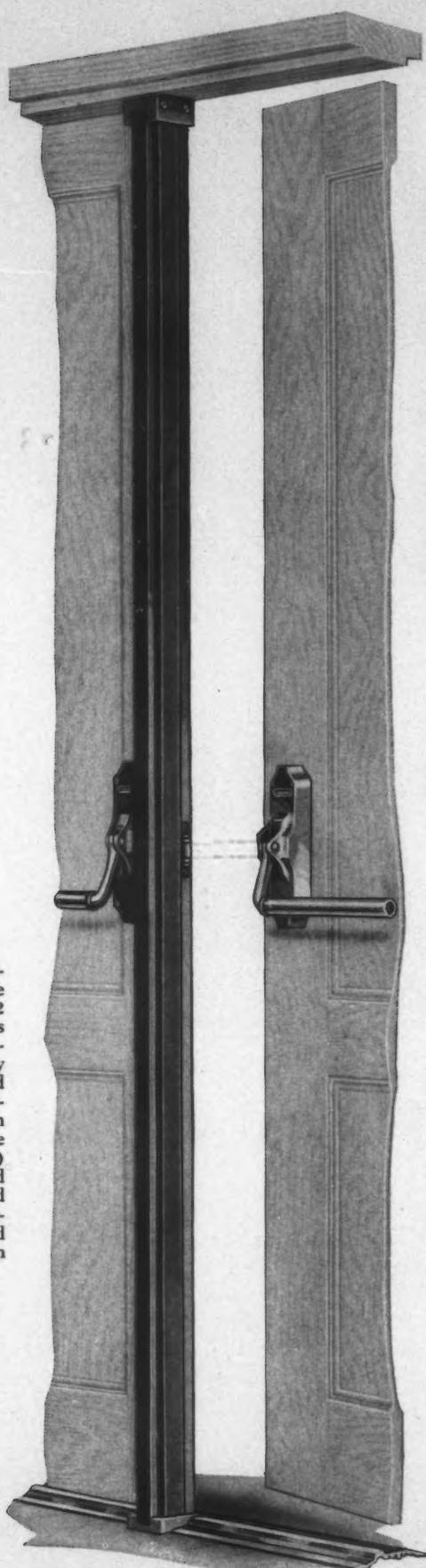
B-2500
White
Porcelain Enamel
Steel



*10% additional charge for colored ware applies to complete sets including Briggs brass fittings.



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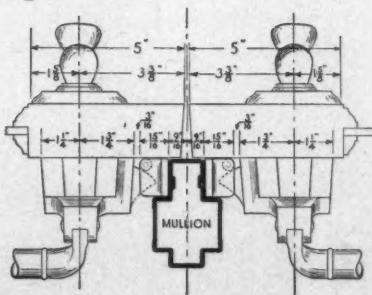


The Von Duprin mullion (shown here with Von Duprin A2 rim devices) consists of a hollow aluminum extruded body with $\frac{1}{8}$ " walls and non-ferrous metal fittings. It comes in either maroon bronze lacquered (No. 1254) or natural brushed finish, clear lacquered (No. 1254CL). Complete details and specifications on request.

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AMONG THE ELEMENTS that help to make this building of the Pacific Telephone and Telegraph Company, Oakland, California, a landmark is the extensive use of Pittsburgh Glass. These products include Pittsburgh Polished Plate Glass, Herculite Doors and $\frac{1}{4}$ " Herculite Glass on the second floor stairwell. Architects: H. A. Thomsen—A. L. Wilson, San Francisco, Calif.



ARCHITECTS FIND Pittsburgh Products ideal for meeting the demands imposed by open-vision store fronts. These large expanses of transparent surfaces permit seeing the interior from the sidewalk, thus serving as a display and advertising medium. In this automobile showroom at Ardmore, Pennsylvania, Pittsburgh Products were utilized to help create a distinctive and appealing design. Among these materials are Pittsburgh Polished Plate Glass windows, Herculite Doors, and Pittco Premier Store Front Metal. Architect: J. Bedford Wooley, Philadelphia, Pa.

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NO OTHER material can add so much beauty and utility to a bathroom as Carrara Glass. Architects agree on that. For Carrara lends itself to many interesting and pleasing treatments. It is available in ten colors, a wide range of thicknesses and numerous possible surface decorations. It lasts indefinitely, is easily kept clean.



ALL THE ADVANTAGES of Twindow—Pittsburgh's window with built-in insulation—plus a high degree of ventilation, are now available to your clients. That is because of the Vita Automatic Window—"the only picture window that opens electrically!"—offered by Vita Automatic Windows Inc., 101 Park Avenue, New York 17, N. Y.

This cut-away view shows the construction of a Twindow unit, using two panes of Pittsburgh Polished Plate Glass. The hermetically-sealed air space between the panes provides effective insulation which minimizes downdrafts, cuts heat losses through windows, reduces condensation. When three or more panes are used, insulation is even more efficient. Forty-seven standard Twindow sizes are available, adaptable either for wood or steel sash.

Design it better with

Pittsburgh Glass

Your Sweet's Catalog File contains a complete listing and descriptions of Pittsburgh Plate Glass Company products.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS

PITTSBURGH PLATE GLASS COMPANY

4-Square Pressure Treated Lumber

OFFERS FROM THREE TO FIVE TIMES LONGER SERVICE LIFE

WHEN a special lumber item offers from three to five times longer service life, it is bound to attract your attention and command your interest. Weyerhaeuser 4-Square Pressure Treated Lumber is such a product.

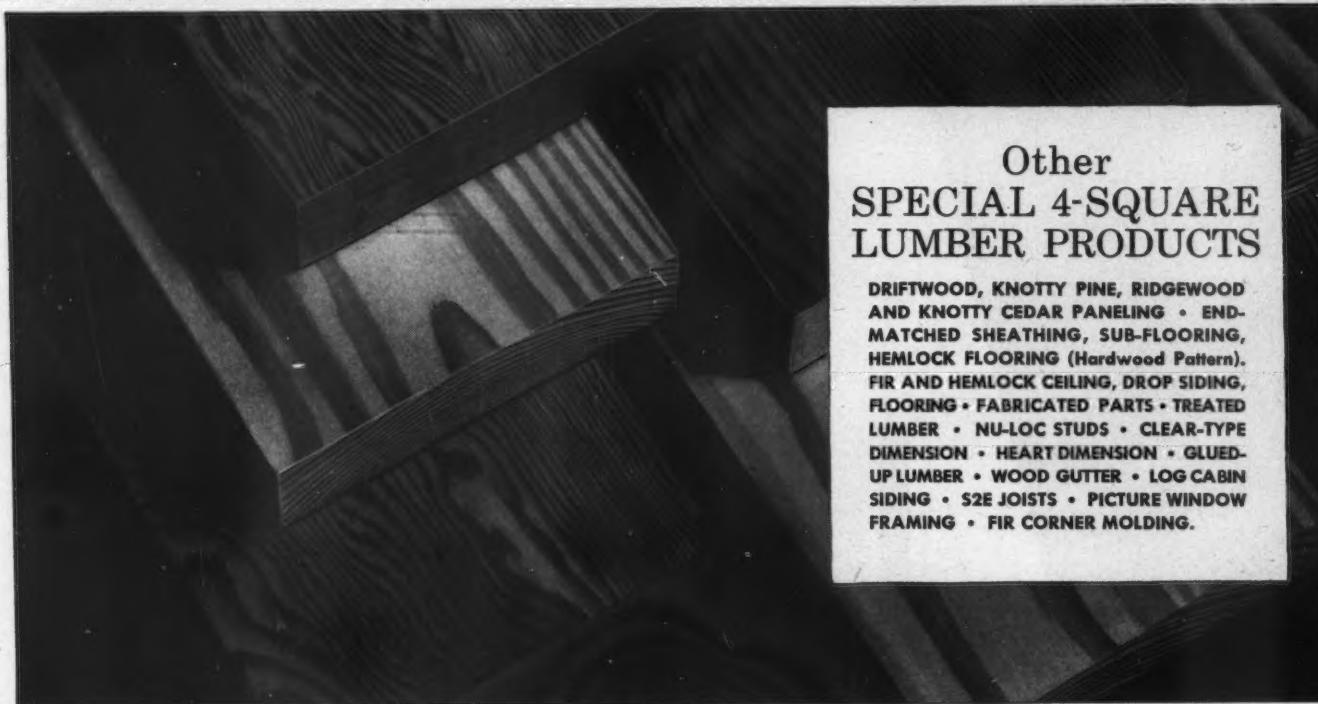
The pressure treatment of lumber, with Wolman salts, assures protection to wood endangered by rot or termites. Wherever wood contacts the ground, concrete or masonry . . . or is exposed to moisture traps, excessive humidity or condensation . . . 4-Square Treated Lumber should be used for real economy.

The extra value of this pressure treated lumber for durability under adverse conditions is definitely established by its long record of service in residential application

and farm construction, as well as varied industrial uses.

4-Square Lumber, pressure treated with Wolman salts, is clean, odorless, paintable, non-corrosive and non-leaching. It is as easy to handle and work as ordinary lumber. It is treated in accordance with the processes prescribed by the American Lumber and Treating Company and the American Wood Preservers Association.

Designers will find that 4-Square Pressure Treated Lumber serves a special need in modern construction. It adds longer life and greater utility to structures. Weyerhaeuser Pressure Treated Lumber is available through 4-Square Lumber Dealers in the regular items in retail stocks.



Other SPECIAL 4-SQUARE LUMBER PRODUCTS

DRIFTWOOD, KNOTTY PINE, RIDGEWOOD AND KNOTTY CEDAR PANELING • END-MATCHED SHEATHING, SUB-FLOORING, HEMLOCK FLOORING (Hardwood Pattern), FIR AND HEMLOCK CEILING, DROP SIDING, FLOORING • FABRICATED PARTS • TREATED LUMBER • NU-LOC STUDS • CLEAR-TYPE DIMENSION • HEART DIMENSION • GLUED-UP LUMBER • WOOD GUTTER • LOG CABIN SIDING • S2E JOISTS • PICTURE WINDOW FRAMING • FIR CORNER MOLDING.

Design for
COMFORT, BEAUTY
and ECONOMY
with
SPECIAL 4-SQUARE
LUMBER PRODUCTS

Weyerhaeuser 4-Square

LUMBER AND SERVICES

WEYERHAEUSER SALES COMPANY
ST. PAUL 1, MINNESOTA

For Extra Safety and Convenience



use

**STANDARDIZED
FEEDER DISTRIBUTION
PANELBOARDS**

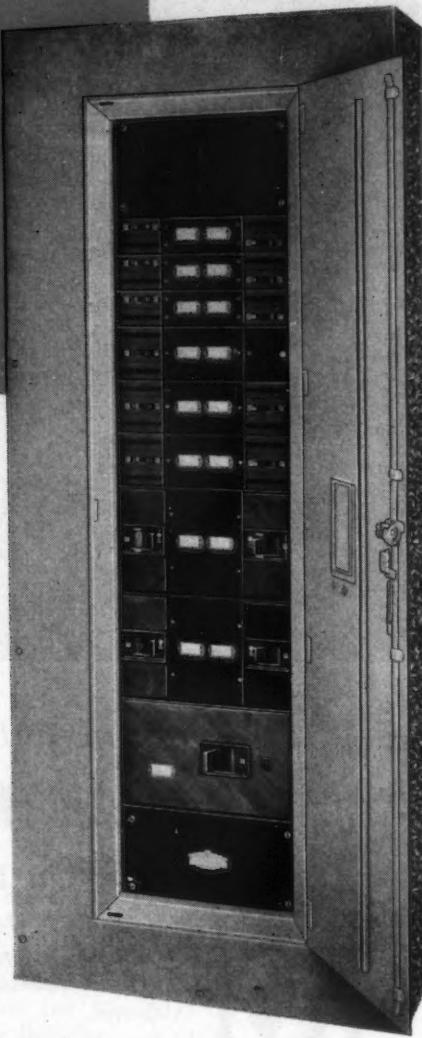
*with automatic
circuit-breaker
protection*

ADD TO **FA** FEEDER PANELBOARDS the extra safety (no overloading) and convenience (nothing to replace) of automatic circuit breaker protection and you have a panelboard that's as popular as it is dependable.

For economy and ease of installation, finished panelboards are built to your requirements using standardized boxes designed to meet any job need. Boxes are shipped from stock . . . with removable ends to permit drilling conduit openings on the job. Panels are readily installed after boxes are in position.

The circuit breakers, too, are standardized as to dimensions and fastenings, permitting ready interchangeability or replacement. 50 amp. frame size has thermal trip only; 100 amp. and larger have combination thermal-magnetic trip.

Of compact design, minimum space is required for these **FA** Circuit Breaker FEEDER PANELBOARDS without sacrificing capacity or installation features. For complete details, talk it over with your **FA** Representative (he's listed in Sweet's).



Capacities: 15 to 600 amps. in four frame sizes (50-100-225 and 600 amp.), 250 and 600 volts AC or DC. Non-interchangeable trip elements are standard on the two smaller frame sizes; interchangeable trip on all others. This feature is also available in 100 amp. frame on special order at slight additional charge.



Frank Adam Electric Co.
ST. LOUIS 13, MISSOURI

Makers of BUSDUCT • PANELBOARDS • SWITCHBOARDS • SERVICE EQUIPMENT • SAFETY SWITCHES • LOAD CENTERS • QUIKHETER



Standing invitation to hospitality

BEAUTIFUL BIGELOW CARPETS

On the floors of the new Hotel Muscle Shoals



STEP INTO ANY ROOM at the beautiful new Hotel Muscle Shoals in Sheffield, Alabama.

Your feet will sink into a soft, luxurious Bigelow Carpet. Your eyes will be welcomed by a harmony of color and design.

(The room above has Bigelow's finely woven Beauvais Carpet, in one of many handsome patterns.)

The careful decorative planning of the Muscle Shoals has won many compliments from its guests. Manager Arthur H. Kirby writes, "An expression frequently heard is that our rooms are 'little gems.' I feel that our attractive carpeting furnishes a perfect setting..."

Equally important is the fact that Bigelow Carpets are known for their long-wearing quality—their ability to remain good-looking through years of use.

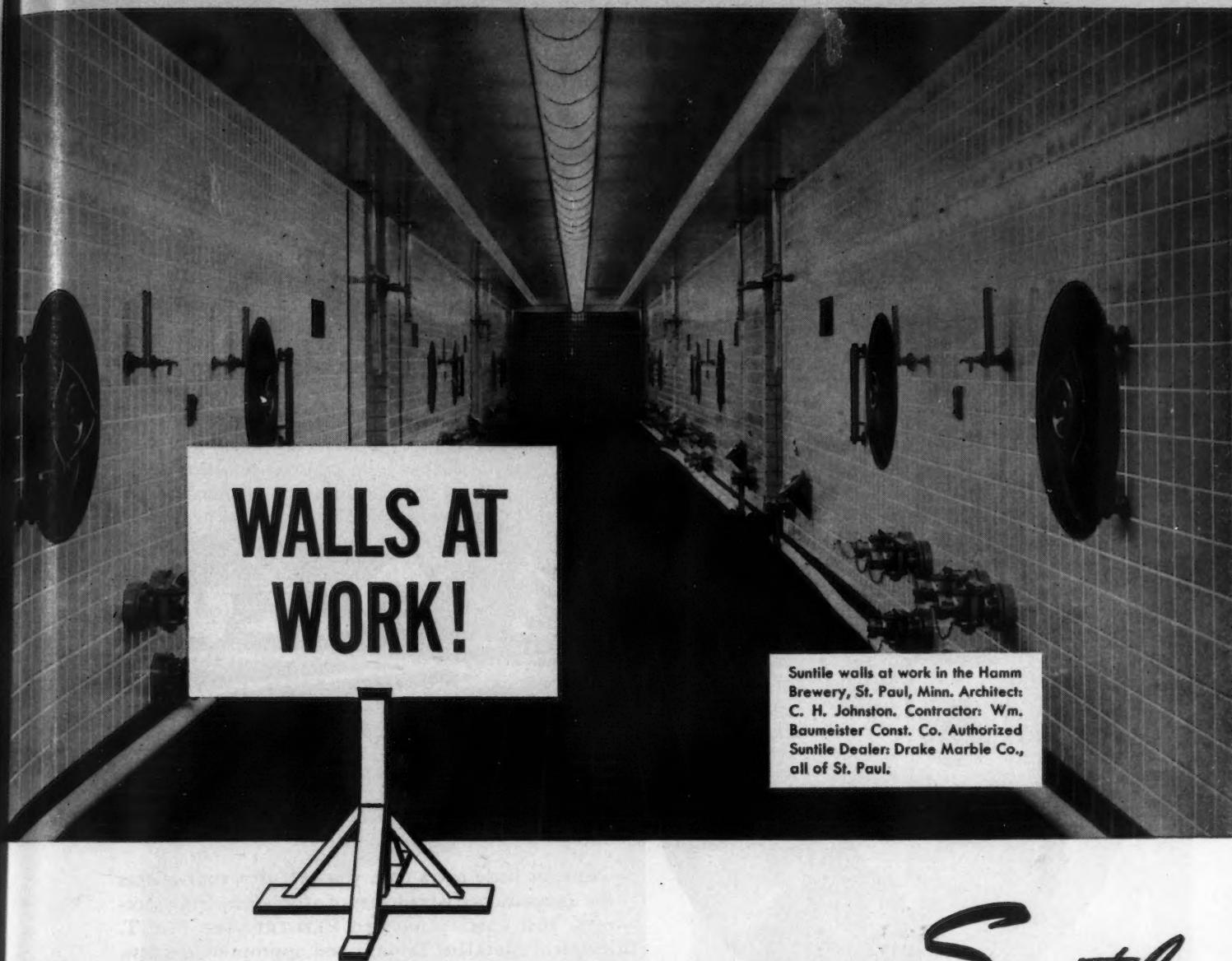
If you are planning a carpet installation, why not take a cue from the Muscle Shoals? Consult the Bigelow Carpet Counsel—a group of experts with a vast sum of experience in decorating offices, hotels, business establishments.

The Counsel will gladly advise about weaves, patterns, colors, costs—help you select the most practical carpet for your particular purpose.

No charge for this service. Just call one of the 26 Carpet Counsel offices. Or write to Bigelow Carpet Counsel, 140 Madison Avenue, New York, N. Y.

BIGELOW Rugs and Carpets

Beauty you can see... quality you can trust... since 1825



Suntile walls at work in the Hamm
Brewery, St. Paul, Minn. Architect:
C. H. Johnston. Contractor: Wm.
Baumeister Const. Co. Authorized
Suntile Dealer: Drake Marble Co.,
all of St. Paul.

It's easy-to-clean, hard-wearing, real clay *Suntile*

You won't actually see the sign—but where you see Suntile in an industrial interior, you'll know the walls (and floors) are hard at work.

Day-in, day-out, these tough, trouble-resistant surfaces keep busy cutting down plant overhead. Routine maintenance costs next to nothing—and long run expenses, refinishing, redecorating and repairs, cost even less! An occasional plain water washing is all the attention Suntile ever needs. This means real savings for your client.

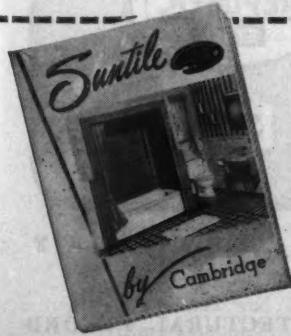
Product processing gets valuable help from Suntile, too. That's because of Suntile's *impermeous* surface. It washes clean, *really clean*. Dirt, grease, moisture, many acids or bacteria cannot penetrate

Suntile's hard, fired-in finish. They stay on the surface where they can be thoroughly washed away.

And what a beautiful job Suntile does brightening up a working place! The colors *stay* lustrous and unfaded. Suntile's Color-Balance gives you practically unlimited color combinations to choose from, makes it easy to provide a cheerful, morale-building setting for any kind of production.

Put this versatile, real-clay tile to work in the next interior you plan. Your Authorized Suntile Dealer can give you valuable help in this. He knows tile and he knows how to give you the finest installation. Every job carries his guarantee. See your classified telephone directory for his name, or write us.

Ideal for: schools
hospitals* • stores
public buildings
industrial plants
residences



NEW COLOR FOLDER AVAILABLE

Created under the direction of Faber Birren, leading color authority. 22 attractive wall colors, 27 beautiful shades of unglazed ceramic mosaic tile, 10 unique Suntile Camargo colors. All selected to give you a wide range of effective color treatments for walls and floors. Write today for your FREE copy, or see our Sweet's Catalog. Dept. AR12, The Cambridge Tile Mfg. Co., Cincinnati 15, Ohio.

WAREHOUSES

The Cambridge Tile Mfg. Co.
470 Alabama Street
San Francisco 10, California

The Cambridge Tile Mfg. Co.
941 N. Citrus Avenue
Los Angeles 38, California



SUNTILE OFFERS YOU BOTH • BETTER TILE • BETTER INSTALLATION

Every Home

NEEDS THIS EXTRA CIRCUIT PROTECTION



Laundry room . . . workshop . . . kitchen . . . garage . . . all need grounded raceway protection. Properly installed with appropriate outlets, such as that illustrated, ELECTRUNITE E.M.T. provides this added protection feature at little added cost.

SEE SWEET'S FILE

or write us for detailed information on these Republic Steel Building Products:

Pipe—Sheets—Roofing
Enduro Stainless Steel
Toncan Enameling Iron
Electrunite E.M.T.
Fretz-Moon Rigid Steel Conduit
Taylor Roofing Ternes
Berger Lockers, Bins, Shelving
Berger Cabinets for Kitchens
Truscon Steel Windows, Doors,
Joists and other Building Products

Now, at little extra cost, you can give your clients the unquestioned advantages of grounded wiring raceways. Just specify modern ELECTRUNITE E.M.T. (Electrical Metallic Tubing) and appropriate outlets.

The result: Positive grounding of every circuit from service entrance to appliance . . . freedom from injurious stray current . . . protection against fires caused by short circuits . . . a better, safer house identified with your name.

Because ELECTRUNITE E.M.T. is a modern rigid steel raceway, its walls make an ideal pathway to ground, providing permanent protection. From a cost standpoint, ELECTRUNITE E.M.T. is ideal, too, because of its many installation advantages which keep job costs at a minimum.

Get the complete story about ELECTRUNITE E.M.T. today. Write, wire or phone for your free copy of Booklet SA-50.

REPUBLIC STEEL CORPORATION
STEEL AND TUBES DIVISION • CLEVELAND 8, OHIO
Export Department: Chrysler Building, New York 17, N.Y.

Republic
ELECTRUNITE E.M.T.



LIGHTWEIGHT THREADLESS RIGID STEEL RACEWAY



NEW PHOTOGRAPHIC MATERIALS . . .

NEW DRAFTING SHORT CUTS

Eliminate Costly Retracing

at INGERSOLL-RAND

Phillipsburg, N. J.

"Ink quality" file copies of pencil drawings are produced with Kodagraph Autopositive Cloth

Instead of making expensive "ink on cloth" tracings of its original drawings, Ingersoll-Rand simply reproduces them on Kodagraph Autopositive Cloth. This new photographic material produces positive copies *directly* (like Kodagraph Autopositive Paper and Film) . . . without the negative step . . . without darkroom handling. No special equipment is required, either: a photocopy machine is used for the exposure operation . . . standard photographic solutions for development. *Result:* intermediates that have the sharpness, the sparkle of new ink tracings . . . with non-smudging, dense photographic black lines on a durable white cloth base.

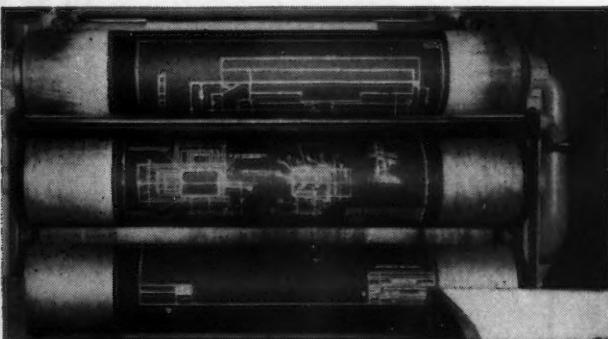


Standard units are added to new drawings with Kodagraph Autopositive Film

Among the many ingenious drafting short cuts developed by Ingersoll-Rand is the use of Kodagraph Autopositive Film overlays made from standard-component drawings. These transparencies are kept on file . . . and taped to new drawings whenever necessary. Following this, the composite is reproduced on Autopositive Paper. *Result:* a photographic intermediate of uniform line density . . . plus important savings in drafting time.

Old, soiled, or damaged drawings are restored with Kodagraph Autopositive Paper

When such drawings are taken from the files, the call is for Kodagraph Autopositive Paper—to eliminate hours of expensive retracing time. This low-cost, high-contrast photographic material increases line density . . . cleans up backgrounds . . . in many cases delivers serviceable intermediates that require no handwork at all. Drawings in very poor condition are restored by Ingersoll-Rand in the following manner: after an "Autopositive" is made, stains, creases, and other unwanted elements are removed with eradicator fluid or razor blade. Then, the print is used to produce a second "Autopositive," which is touched up with pencil if necessary.



Additional advantages of using Kodagraph Autopositive intermediates

Sharper, cleaner blueprints are produced—at uniform, practical speeds—because Ingersoll-Rand makes them from "Autopositives" instead of its perishable original drawings. This way—there's far less chance of "reading errors" in the shop. And valuable originals are protected against machine wear and tear . . . constant handling; are kept safe in the files available for reference and revisions only.

Kodagraph Autopositive Materials

"The Big New Plus" in engineering drawing reproduction

MAIL COUPON FOR FREE BOOKLET

Learn in detail how you can use Kodagraph Autopositive Paper, Cloth, and Film—the revolutionary products which you, or your local blueprinter, can process quickly, economically. Write today for a free copy of "Modern Document and Drawing Reproduction."

EASTMAN KODAK COMPANY
Industrial Photographic Division
Rochester 4, N. Y.

Gentlemen: Please send me a copy of your illustrated booklet giving all the facts on Kodagraph Autopositive Materials.

Name (please print) Position
Company Street
City State



Kodak
TRADE-MARK



**When FLEX-A-POWER goes UP
... costs come DOWN**

Standardized construction and flexibility of FLEX-A-POWER busways reduce investment. No costly investment to anticipate future needs. Low cost to install pre-fabricated sections. LVD (low voltage drop) used as main feeder.

**Make your
Power plan**

*economical to begin with
and everlastingly flexible*

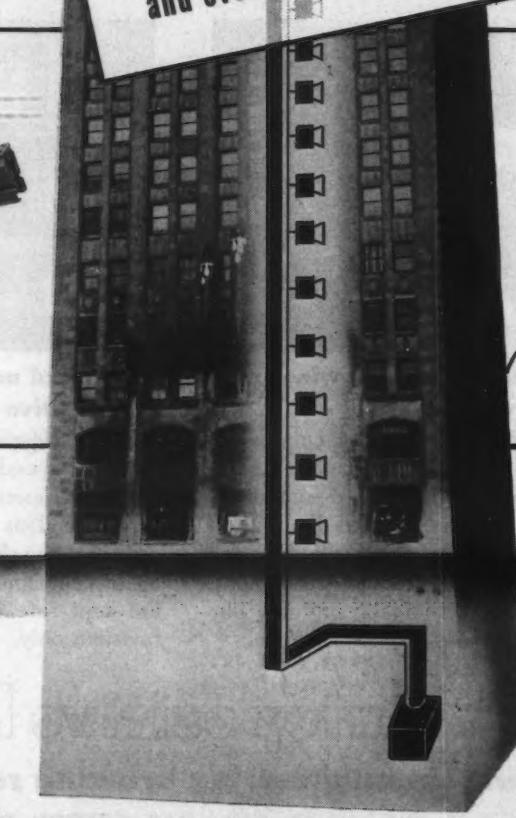
**Always room for
ADDITIONAL loads**

Take-offs at frequent intervals permit loads to be added or rearranged without disturbing the feeder system. FVK (secondary feeder) has 15 outlets in every 10-ft. section; LTG (light duty) is a potential outlet its entire length.



**FLEX-A-POWER never
grows old**

Whenever a *major* relocation of outlets is required, the entire FLEX-A-POWER system can be dismantled, removed to another location and re-installed with practically 100% re-use of materials.



**How to make your
clients POWER-HAPPY**

This free booklet tells more about economical FLEX-A-POWER—the *modern* power distribution system used, for example, in Atlanta's Candler Building, Cincinnati's General Hospital, Houston's Shamrock Hotel, Gimbel's Milwaukee store. Write for Bulletin TEM-1. THE TRUMBULL ELECTRIC MANUFACTURING COMPANY, Plainville, Conn.

TRUMBULL  **ELECTRIC**



TRUMBULL'S TRAINLOAD OF NEW PRODUCTS



stainless steel is a family affair

There's more than just one type of stainless steel . . . because *stainless* applies to a family of steels. And in order to get the best possible results from stainless in your application, the *right* analysis must be used.

That's why Crucible, a pioneer in the development of this specialty, offers you the services of an alert staff of metallurgists to help you with your stainless application problem.

Crucible's half century of specialty steel leadership is built on a strong foundation of service to Industry . . . with attention to detail . . . whether the order is in tons or pounds. From the ground up, Crucible designed and put into operation one of the first integrated mills built specifically to hot and cold roll stainless steel. This \$18,000,000 addition gives Crucible facilities to provide industry with stainless in every form.

There is no substitute for Crucible's background of 50 years of specialty experience. Let Crucible show you how to apply stainless steels to your products. One call from you puts us to work on your application.

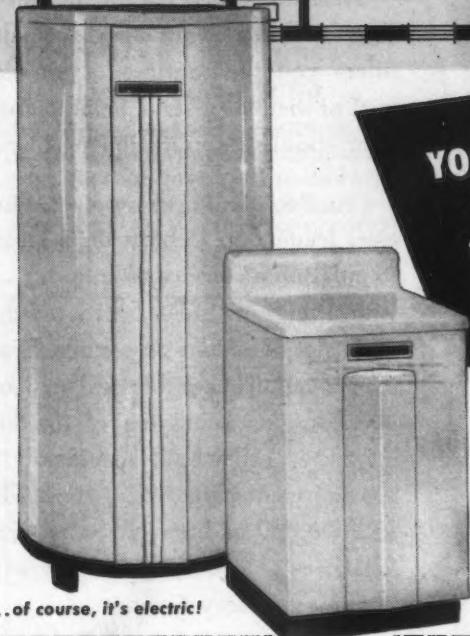
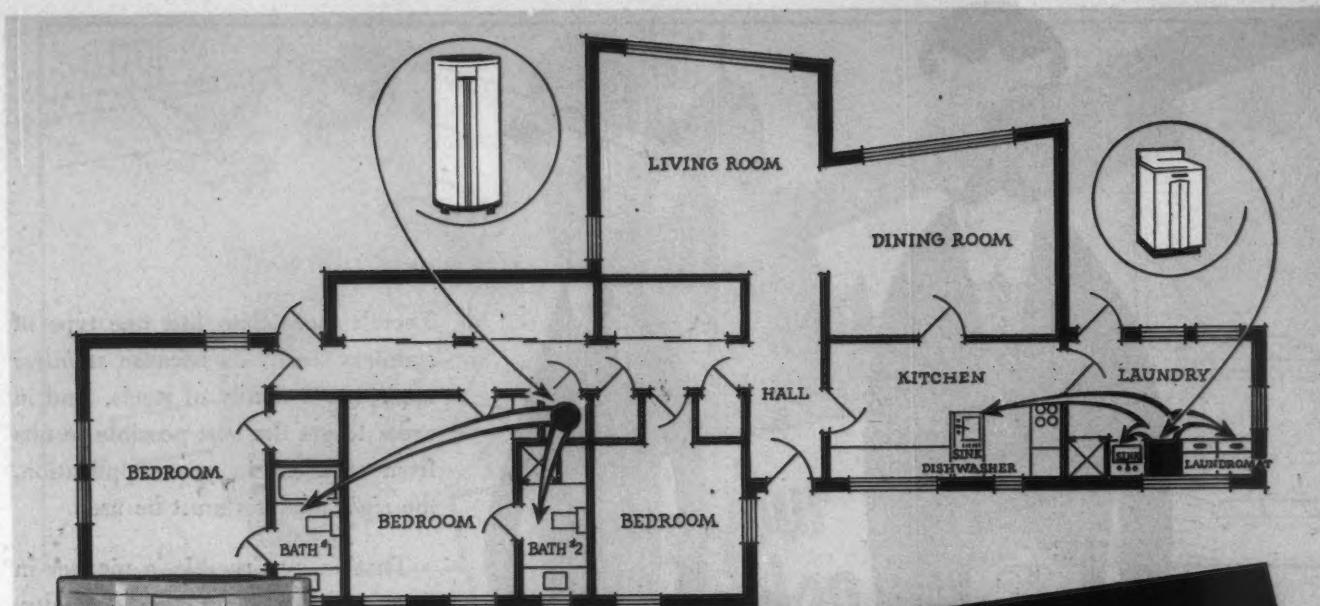
CRUCIBLE STEEL COMPANY OF AMERICA, Chrysler Building, New York 17, N. Y.

CRUCIBLE

first name in special purpose steels

STAINLESS STEELS

STAINLESS • HIGH SPEED • TOOL • ALLOY • MACHINERY • SPECIAL PURPOSE • STEELS



...of course, it's electric!

YOU'RE LOOKING AT AN *Idea THAT MEANS*
Better Hot Water Service
 FOR ONE-FLOOR HOMES

Piping hot water long distances is inefficient . . . and often expensive from an installation standpoint.

So why not make use of two—or more—water heaters to serve various bath, kitchen and laundry areas?

A Westinghouse Table-Top Water Heater provides ample capacity for kitchen and laundry needs. It fits into a bank of cabinets, matches up with laundry equipment. It provides valuable work surface through its counter-height porcelain top with backsplasher.

Then, for bathroom needs, a Westinghouse Standard fits into closet or alcove . . . fits perfectly, too, into your design for comfortable living.

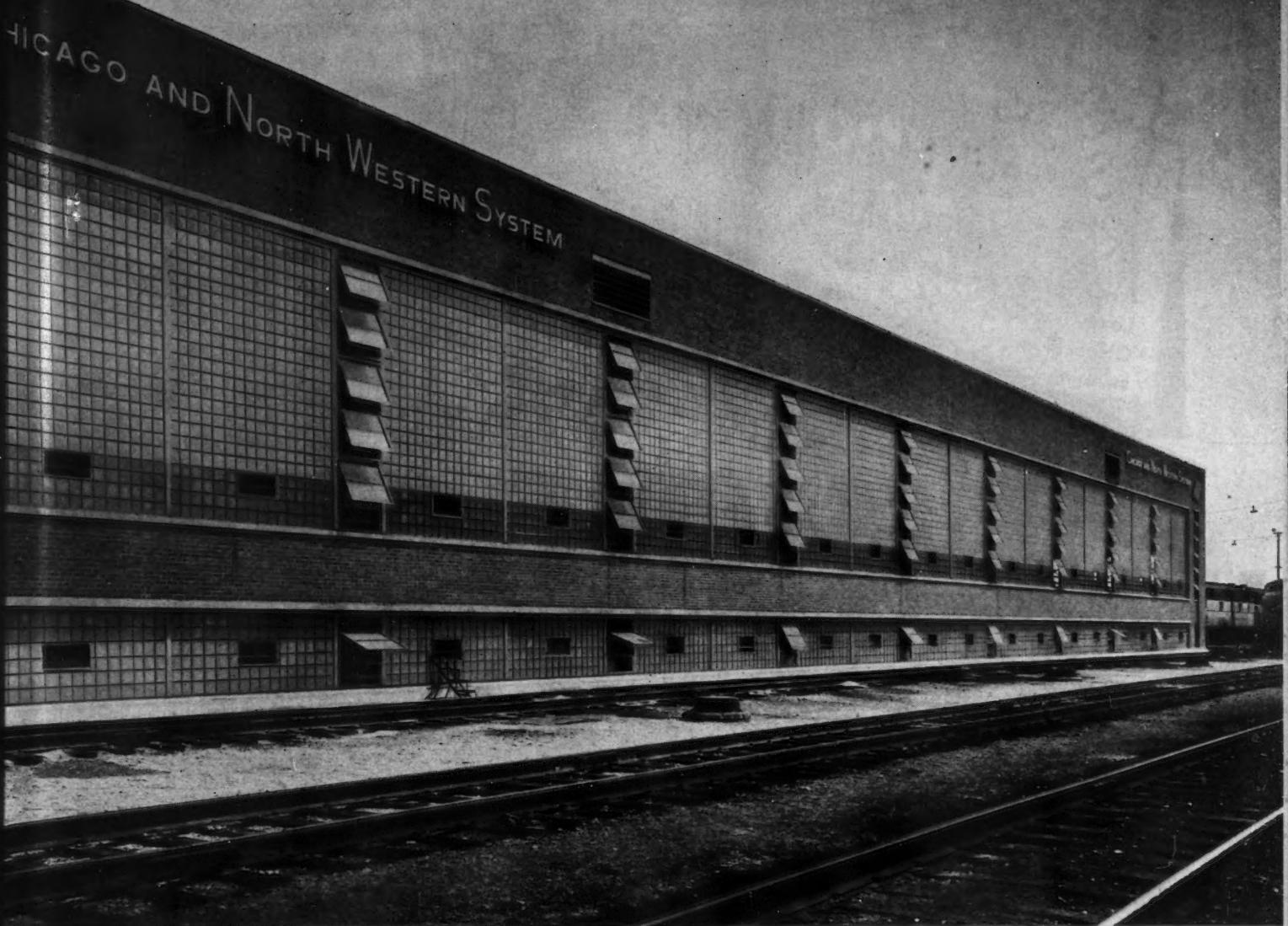
With Westinghouse Electric Water Heaters, you assure top performance, due to such quality features as direct immersion "COROX" elements, Fiberglas insulation and a 10-Year Protection Policy against tank failure.

Send coupon for full information and specifications.

WESTINGHOUSE ELECTRIC CORPORATION
 ELECTRIC APPLIANCE DIVISION • MANSFIELD, OHIO

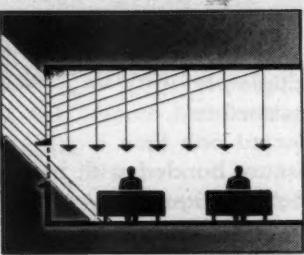
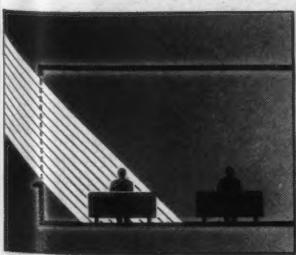
YOU CAN BE SURE..IF IT'S *Westinghouse*





Rugged railroad demands, Insulux resists smoke, rust, rot, seldom needs washing, rates like an 8-inch brick wall. Service Depot designed by De-Lew Cather & Co., architect: Chief Engineer E. C. Vanderburgh, Consulting Architect: A. N. Kebori.

DAYLIGHT IS FREE—DON'T ABUSE IT—USE IT—THROUGH Daylight Engineering



Direct sun causes uncomfortable brightness near windows, extreme contrast in other parts of room. Insulux Fenestration (glass block plus vision strip) directs and spreads daylight to ceiling, keeps brightness at comfortable levels, provides vision and ventilation.

Why install windows to let daylight in, then cover most of the openings with blinds, shades or curtains to keep out the glare?

That is a wasteful, old-fashioned way of handling free light. Rapidly becoming outmoded, too.

Now Daylight Engineering with an Insulux Fenestration System shows you how to use daylight most effectively . . . morning, noon and afternoon as though your building turned with the sun.

An Insulux Fenestration System lets you provide light with privacy—light with insulation—light through a tough, durable product that never rusts or rots, is highly fire-resistant.

To let daylight into dark places under scientific control, ask for a Daylight Engineer's help. Write our Daylight Engineering Laboratory, Dept. AR12, Box 1035, Toledo 1, Ohio, for professional service. *Insulux Div., American Structural Products Co., subsidiary of Owens-Illinois Glass Co.*



INSULUX FENESTRATION SYSTEMS

—by the pioneers of Daylight Engineering

Specified for
Salem Ridge,
Ridgewood, N.J.

Frederick W. Harsen, Architect
Lovel Building Co., Gen. Contr.
Olson Flooring Co., Flooring Contr.
340,000 sq. ft. of Higgins flooring in 440 homes



HARDWOOD FLOORING

by **Higgins** U.S. PAT. OFF. WORLD-FAMOUS
BOAT BUILDERS

with Lifetime Beauty and Service

Higgins Bonded Hardwood Block Flooring will not warp, buckle, cup, or crack. It is rot proof, termite proof, water repellent, abrasion resistant, climate proof—especially quiet and comfortable to walk on.

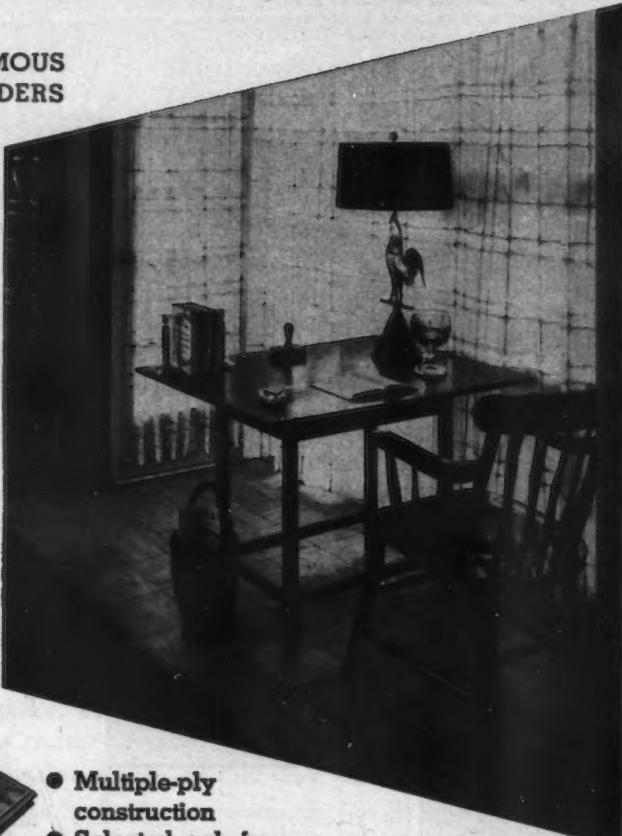
Higgins Flooring is ideal over radiant heating. Grooves in the back of each block act as a heat conductor, assuring uniform heat with practically no increase in water temperature.

Higgins Flooring can be installed over any type of slab or any other subflooring. It can be blind nailed or laid in adhesive.

Keeps its luxurious beauty indefinitely with only routine housekeeping attention. You can always specify Higgins with confidence wherever distinction and permanence are desired.

Costs less laid down
Sells homes faster
Increases valuation

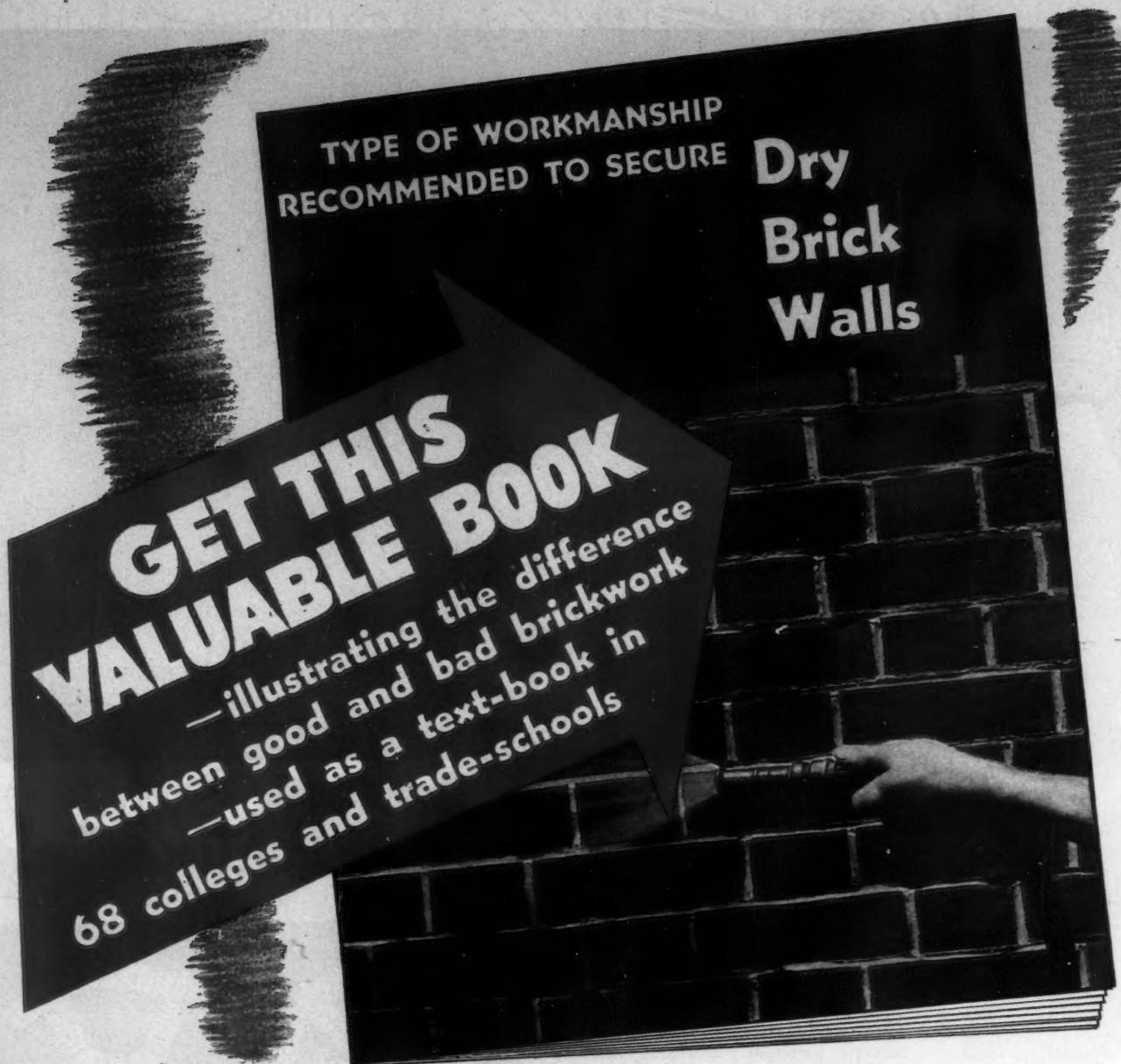
Write for literature and sample block



- Multiple-ply construction
- Selected oak face
- Pressure bonded with marine-type glue
- Integral tongues
- 9" x 9" net face
- Toxic impregnated—comes with final finish
- Grooved back molds to surface, anchoring into adhesive

Higgins INCORPORATED U.S. PAT. OFF. NEW ORLEANS BONDED HARDWOOD BLOCK FLOORING





FOR many years intensive research on the cause and prevention of leaky brick walls has been conducted by various organizations and individuals, and much vital information has been gathered.

Most authorities agree that *workmanship* is the most important thing involved, but until now, no one has attempted to explain and *illustrate* the difference between good and bad workmanship.

"Type of Workmanship Recommended to Secure Dry Brick Walls" does just that. In it, a recognized authority on brickwork has compiled 16 pages of proven information—explanations and recommendations—96 color illustrations. It is a major

contribution to *good building*. It is *not* an advertisement for our product, Brixment. It is published as a service to the building trades. It will be sent free to any architect, contractor, bricklayer or dealer who is interested in water-tight masonry.

Use the coupon to secure your copy. No obligation of any sort.

Louisville Cement Co., Incorporated

308 Guthrie Street, Louisville 2, Kentucky

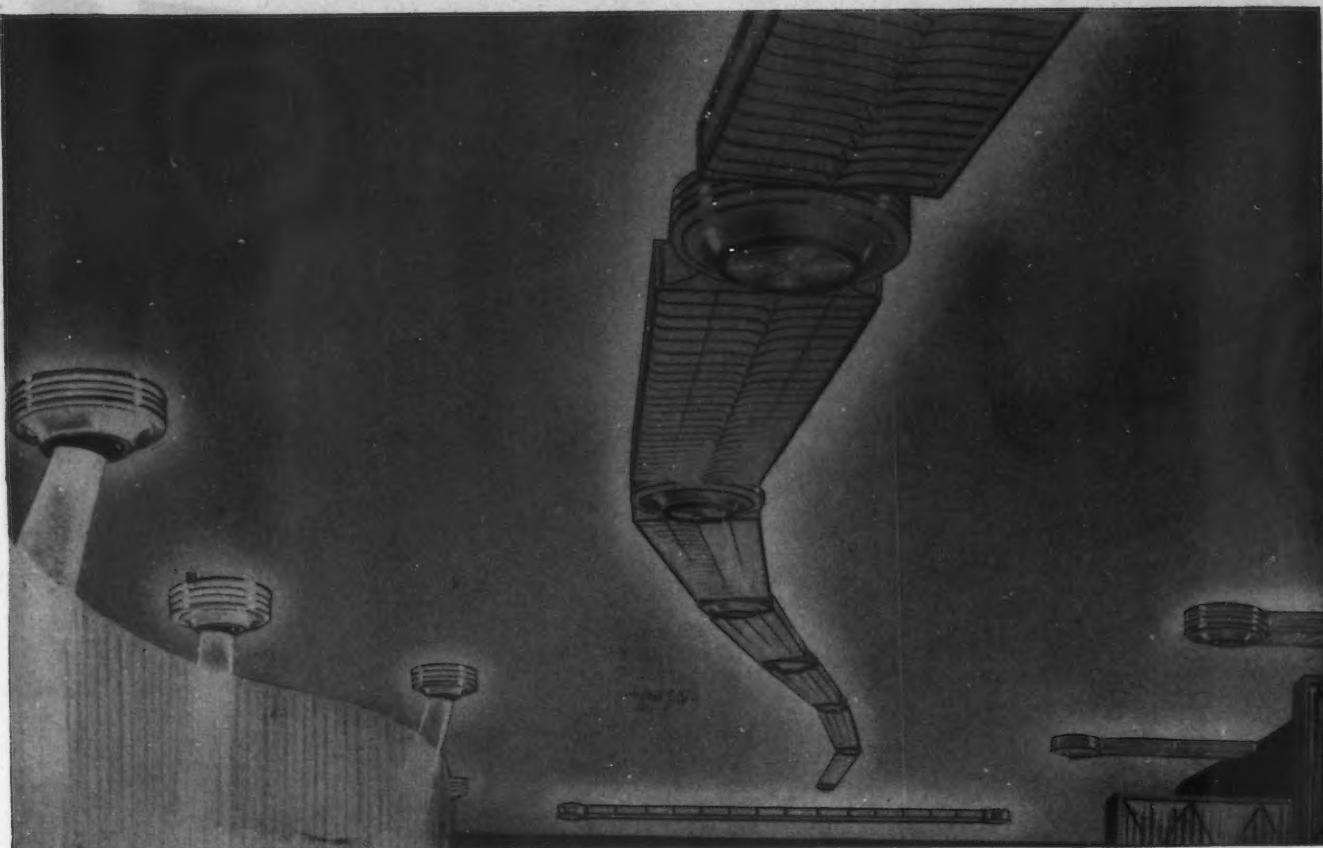
Gentlemen: Without obligation, please send me a copy of "Type of Workmanship Recommended to Secure Dry Brick Walls."

Name _____

Firm _____

Street _____

City _____ State _____

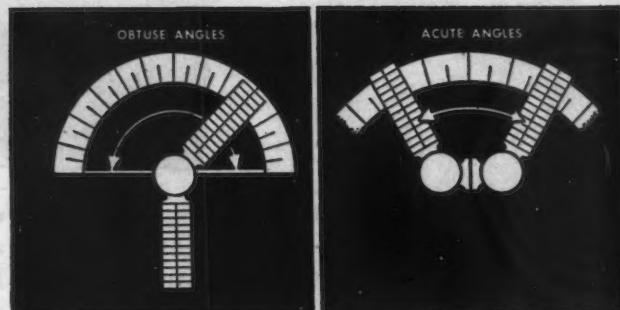


Now you can "do things" with lighting, too!

Buy PLEXOLINE!—sensational new mass-produced lighting system with "flexibility." Simple combinations of Plexoline's linear and circular units produce any lighting patterns your imagination can invent. Graceful curves of light . . . circular contours . . . angular patterns . . . abstract designs . . . and more!

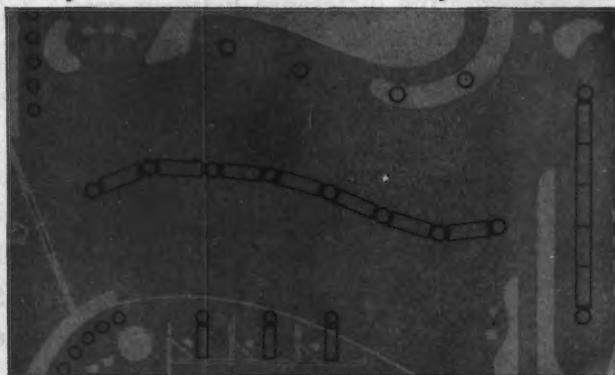
Best of all, Plexoline delivers this truly custom-tailored lighting *at standard cost*. It's modern lighting with all the traditional economies of Day-Brite QUALITY; Plexoline is carefully designed and produced to insure long years of trouble-free, efficient service at the *lowest* possible installation, maintenance and operating cost.

But you need the full PLEXOLINE story to properly judge its amazing advantages to you. Send for your free copy of "Plexoline — Imagination at Work." Day-Brite Lighting, Inc., 5465 Bulwer Ave., St. Louis 7, Mo. In Canada: Amalgamated Electric Corp., Ltd., Toronto 6, Ontario.



Plexoline is simple. No intricate wiring arrangements, no costly installation problems. All parts are uniform, fit accurately. Linear sections are available in a variety of lengths, 2- and 4-lamp, Slimline and standard Fluorescent. Circular units available as adjustable accent units.

Now you Can DESIGN LIGHTING to Fit your Floor Plan!



045



PREMIUM QUALITY WITHOUT PREMIUM COST



FREMONT RUBBER TILE DUO-CUTS and DIAGONALS

Give your clients a floor design that's attractive and different. Fremont Rubber Tile Duo-Cuts with interchangeable centers and Diagonals, precision cut at the plant, create a "custom" floor installation without the added cost of hand work. However, like other rubber products, rubber tile shipments are slower in reaching our Dealers so it may take a little longer to secure the exact pattern you want. It's worth the wait. Fremont Duo-Cuts and Diagonals give a dressy . . . different floor idea.

Patterns:
800 Dove Gray,
100 Sun Dawn



fremont rubber Company

309 McPherson Highway, FREMONT, OHIO

MAKERS OF: Rubber Tile • Rubber Tile Adhesive • Vinyl Plastic
Cove Base • Rubber Rugs • Sponge Rubber Rug Cushion
Plastics • Foam Rubber

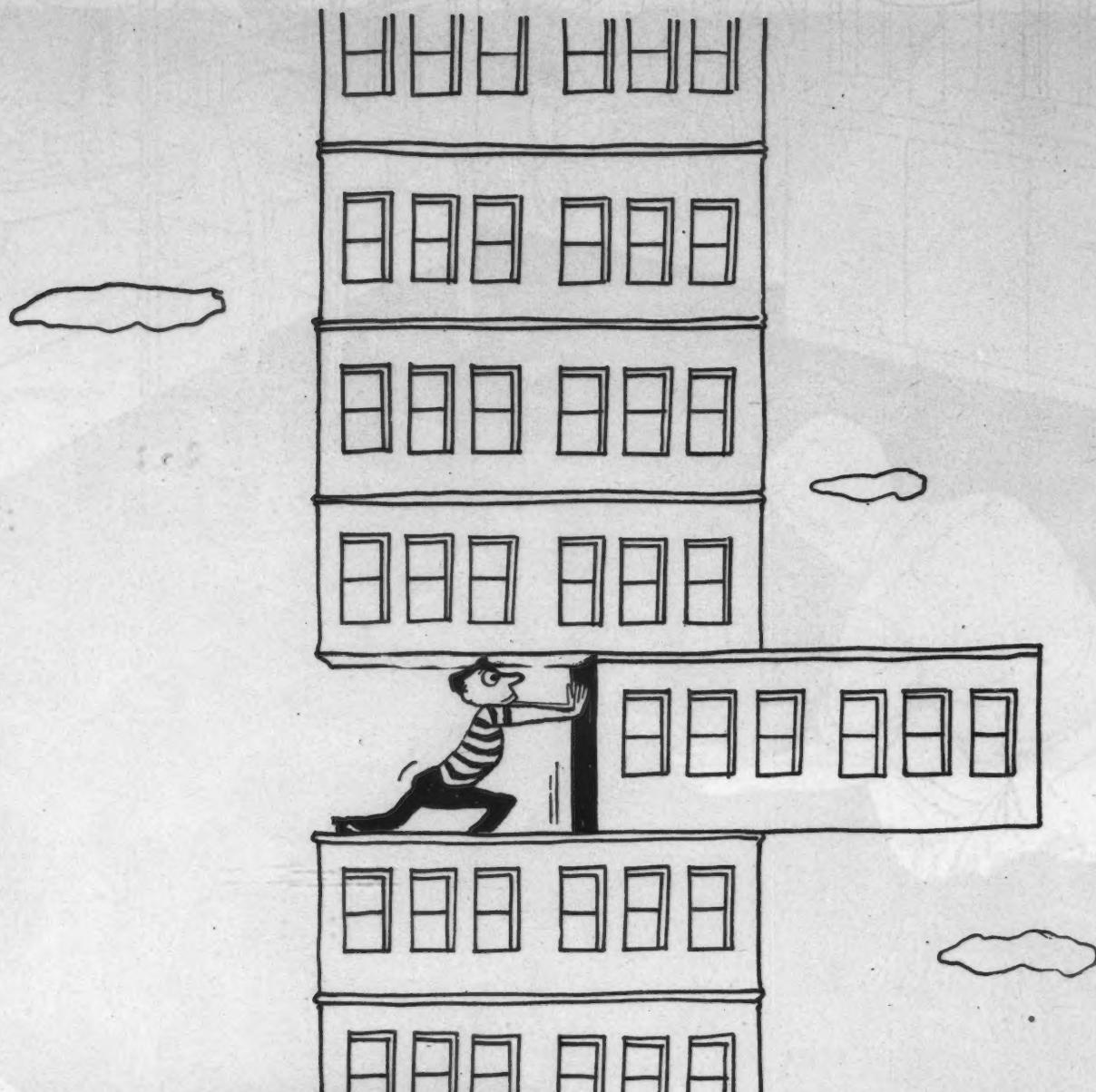
Please send me without obligation a copy of your full-color brochure, "Fremont Opens the Door".

Name _____

Firm Name _____

Street Address _____

City _____ State _____



DON'T THROW THAT FLOOR AWAY!

You may think this cartoon's ridiculous. But it's a fact that you can save one floor out of ten by specifying the Carrier Conduit Weathermaster System for air conditioning new buildings. Using small conduits instead of bulky ducts, this system saves up to 85% of the rentable space taken up by other systems. In terms of extra income, that's mighty important to an owner.

Invented by and exclusive with Carrier, the Conduit Weathermaster System is suited to hospitals, hotels, office buildings and apartments. It can be installed in existing multi-room buildings without extensive alterations or interruptions to normal

service. A year-round system, it allows individual regulation of temperature in each room at the twist of a dial. It also provides every other air conditioning benefit—the proper control of humidity, ventilation, draft-free circulation and the cleaning and filtering of air.

Pioneer in air conditioning, Carrier has contributed every major advance in the field. Its experience is world-wide and on every type of structure. This know-how is at your disposal through our representatives, who will be glad to co-operate with you on any undertaking. Carrier Corporation, Syracuse, New York.



AIR CONDITIONING
REFRIGERATION
INDUSTRIAL HEATING



MENGEL means *QUALITY* in *Hollow-Core* **FLUSH DOORS**



- 1 Balanced seven-ply construction to provide controlled reaction in changing weather conditions.
- 2 Hardwood construction throughout—stronger, more durable, free from grain-raising, more easily and economically finished.
- 3 Exclusive Insulok grid core material has inherent resiliency, cannot cause warping, nor transfer grid pattern to faces.
- 4 Greater strength. Adequate core stock surface area provides maximum gluing surface and resistance to warpage.
- 5 Precision key-locked dove-tail joinings of stiles and rails add strength and stability.
- 6 Ready to finish. Door faces are smoothly belt-sanded. Stiles are machine-planed at factory—prefit to standard book sizes.
- 7 Fully guaranteed. Each door must meet rigid quality control standards and constant inspection throughout manufacture.
- 8 Mengel Flush Doors are economical—no mouldings to paint—no corners to collect dirt. Smooth hardwood surfaces are less absorbent and less costly to finish—easier to clean and longer-lived.

Write for complete specifications. Use the coupon.

Also see—

MENGEL STABILIZED SOLID-CORE DOORS
the finest products of their type on the market.

The Mengel Co., Plywood Division
2314 South Fourth Street, Louisville, Ky.

Gentlemen: Please send me, without obligation, full specifications on Mengel Hollow-Core Flush Doors; Mengel Stabilized Solid-Core Doors.

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Guard against lighting failure in the buildings you design

All buildings where crowds gather indoors at night require protection from the dangers of lighting failure. Storms, floods, fires, collisions and accidents beyond the control of ever-vigilant light and power companies can interrupt normal current supply and be a serious menace to life and property.

But the *lights need not fail* in the buildings you design. Exide Emergency Lighting provides safe, sure, modern protection. When other sources fail, it takes over any part or all of the lighting load, instantly and automatically. Units and systems can be supplied to meet

any requirement from a few lights to many . . . from a single building to a large group.

THE ELECTRIC STORAGE BATTERY COMPANY
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Exide
EMERGENCY
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"Exide" Reg. Trade-mark U. S. Pat. Off.

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Save Valuable Floor Space with...



Have the convenience and safety of permanent built-in seats... yet provide the maximum floor area for other purposes when spectator seats are not required. Medart telescopic gym seats occupy just 32 inches of floor space when in "nested" position! No special wall reinforcement necessary because load is distributed on the floor rather than wall.

NOTE THE MEDART "SAFETY FACTOR"

The understructure is made entirely of steel with uprights of double channel construction to give "I" beam vertical strength and balancing support. Spacer angles and cross channels are of steel. Selected lumber used throughout for seatboards, footboards and risers—full length—full width . . . *one piece*.

**Medart Telescopic Gym Seats Available In WALL ATTACHED . . .
MOVABLE...HIGH ROW (UP TO 20 ROWS HIGH) AND RECESSED TYPES**

Write for descriptive literature . . . send your
plans for suggestions.

SWEET'S FILE (ARCHITECTURAL) NO. 23g-3a and 23c-8a
FM50-1

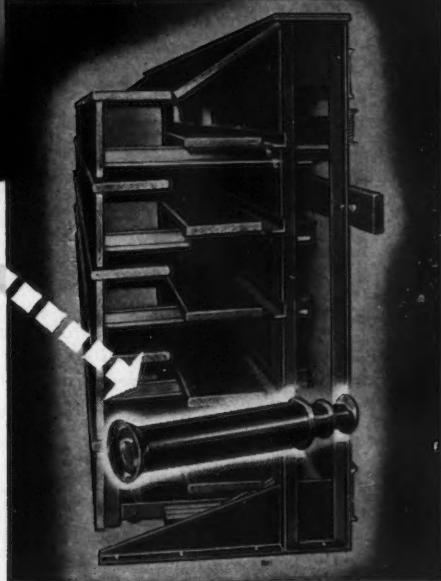


FRED MEDART PRODUCTS, INC.

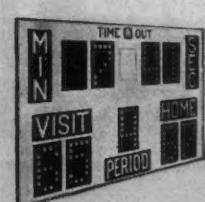
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Mesker

STEEL WINDOWS . . . KNOWN FOR THEIR

Strength

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Architect: Morgan-Gellatt and Associates • Burlington, Iowa
Contractor: Kuchara Construction Company • Des Moines, Iowa
Mesker Sales Engineers: Berkley-Pinkerton Company • Waterloo, Iowa



FOR MONUMENTAL BUILDINGS, FOR COMMERCIAL BUILDINGS

Go dramatic . . . safely . . . with Mesker STEEL "window walls"!

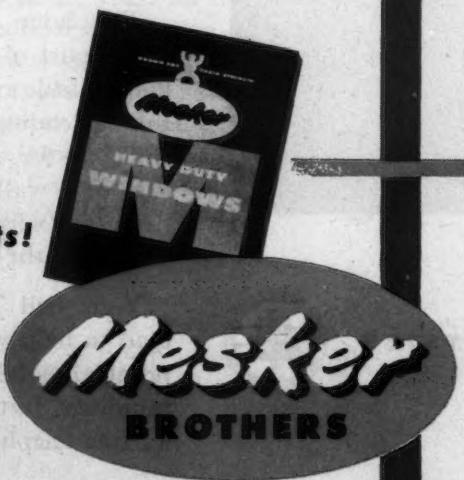


You can do a better design job, create more effective window treatments, and get safer wall structure with Mesker STEEL Windows . . . *the strongest windows made!* Next time you're scratching around on your drawing board . . . searching for an idea that's both striking and practical . . . try a Mesker "wall of windows". Stronger Mesker windows let you design larger window areas. Your buildings have *more* inside light, and up to 100 per cent ventilation . . . perfectly, completely controlled fresh air at a touch of the hand. A noteworthy example is the Iowa sanatorium addition shown here, featuring long runs of Mesker "window walls". Here's a square foot of windows for every 1.76 square feet of floor space! Remember, too, the initial cost of Mesker windows is remarkably low compared to any other type of window or wall construction. Upkeep is practically *nil*.

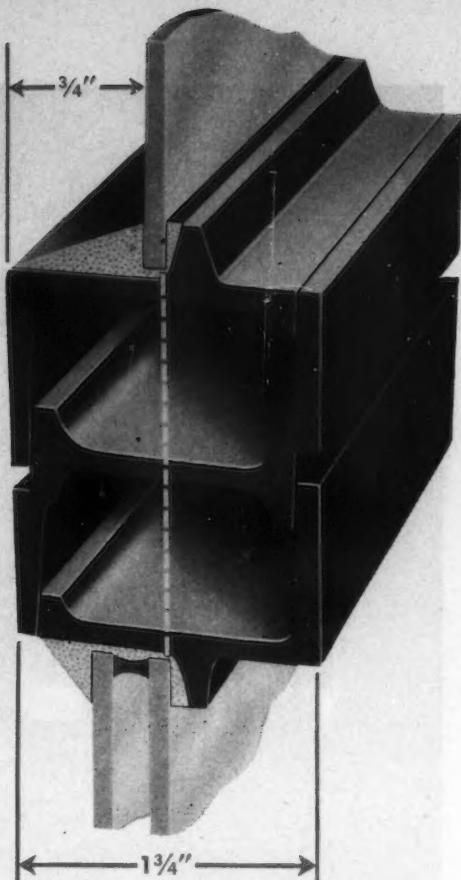
When you're ready to design a dramatic structure that has plenty of architectural feeling plus greater safety, get in touch with your Mesker sales engineer . . . the man who sells *the strongest windows made*.

**Available now
and FREE to architects!**

It's here—new 1950 Catalog of Mesker "Heavy Duty" Windows! An organized reference book that covers every aspect of steel window designing, engineering and specifying. Order your copy today by mailing the coupon below!



FOR SCHOOLS, FOR HOSPITALS



33% MORE STRENGTH

That's the difference—the Mesker *extra*—that means greater safety—higher resistance to wind shock and rough treatment. Mesker's Intermediate Ventilator member is up to 33%* stronger because of its greater depth. This is *the deepest section made!* This means you, and every architect, can think in bigger terms—design larger, more impressive window areas without concerning yourself about window strength. So regardless of the type of architecture you favor, choose a stronger, more beautiful Mesker steel window. Be certain of the best, the safest, and the strongest! Specify MESKER, *the strongest windows made!*

*Based on the comparative section modulus of similar hot rolled steel members 1 3/8" deep versus steel members 1 5/8" deep.

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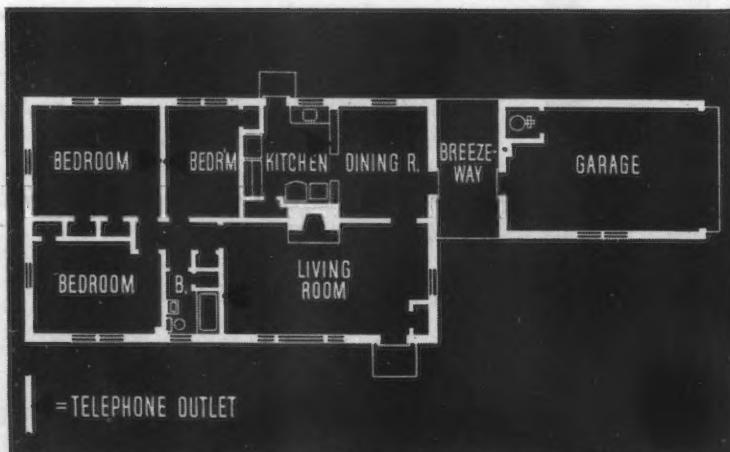
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City and State _____



W. W. MEIRS, *Designer*

RIGHT FROM THE START...TELEPHONE OUTLETS



BELL TELEPHONE SYSTEM



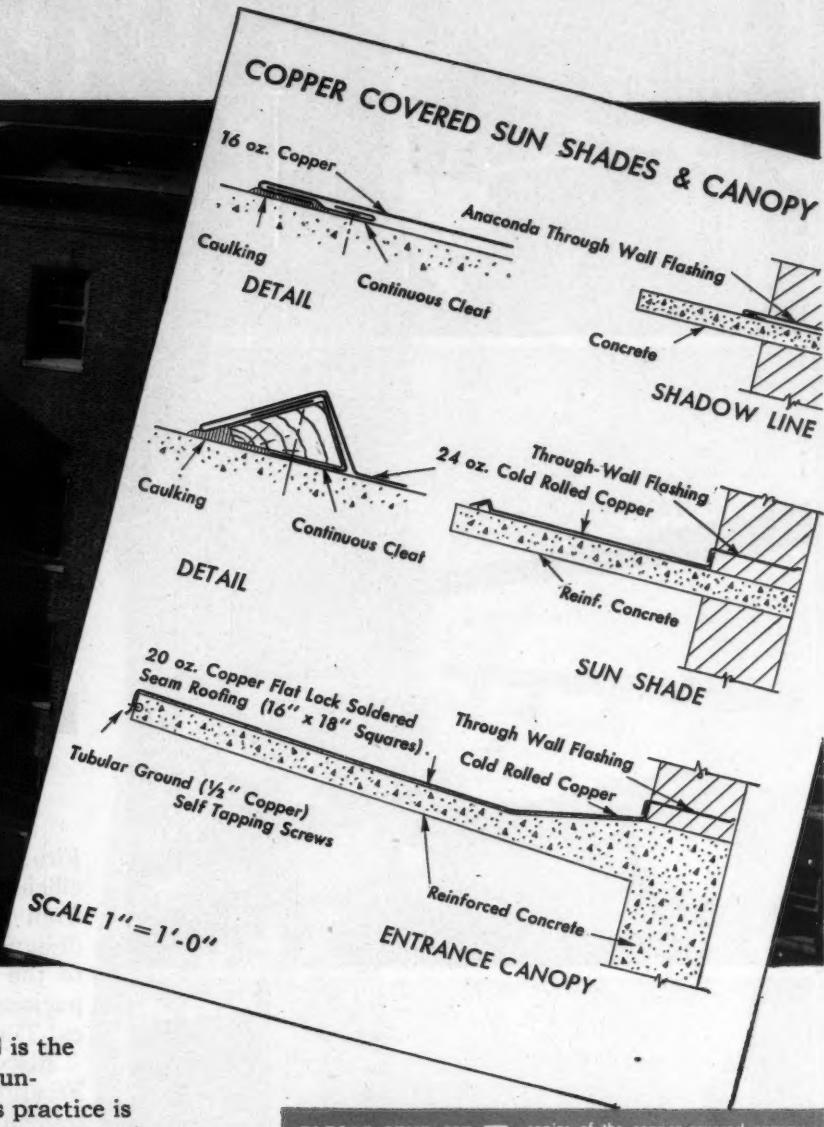
It's both practical and profitable to plan for telephones while a house is still in the blueprint stage. Practical because it protects the beauty of walls and woodwork by keeping telephone wires concealed. Profitable because it impresses prospects and makes houses more salable.

Telephone outlets can be made an integral part of any house—with little effort and at little cost. A few lengths of pipe or tubing leading to outlet boxes are usually sufficient for the average house. Placed inside the walls during construction, they carry the wires unseen to the outlets, thus protecting the beauty of walls and woodwork.

Your Bell Telephone Company will be glad to help you in planning efficient, economical conduit layouts for houses and buildings. Just call your local Business Office for free telephone planning service.

Another ANACONDA leaf for your notebook

on **COPPER** for better
design and construction



A new and interesting architectural trend is the use of copper-covered concrete slabs as sun-shades over balconies and windows. This practice is detailed in the accompanying drawings. These details, on convenient $8\frac{1}{2}'' \times 11''$ sheets, are yours for the asking. Similar data, or any desired special information, on ANACONDA Sheet Copper, such as chimney or Through-Wall Flashing, gutters and various types of copper roofs, will gladly be furnished on request. Just send a note outlining your problem to The American Brass Company, Waterbury 20, Connecticut. In Canada: Anaconda American Brass, Ltd., New Toronto, Ontario.

5004
PLEASE SEND ME copies of the copper-covered canopy sketches illustrated here.

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FIRM.....

STREET.....

CITY..... STATE.....

You can build it better with **ANACONDA** [®] COPPER



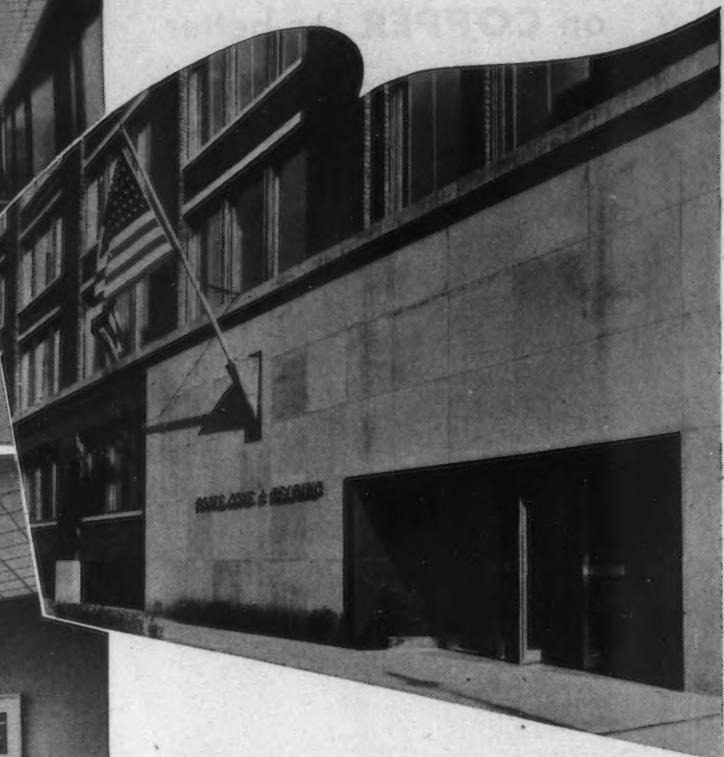
Building: FOOTE, CONE & BELDING—Chicago

Designer: Harper Richards

Architect: Friedman, Alchuler & Sincere

General Contractor: E. H. Marhpefer Co.

Acoustical Contractor: General Acoustics Co.



Design for **QUIET** and **BEAUTY**

Fire safety and unusually high acoustical efficiency . . . soft, uniform light diffusion from the rich, attractive finish . . . all designed to add smart, decorative beauty to the modern office . . . all yours in one package with a Fiberglas* Textured Acoustical Tile Ceiling.

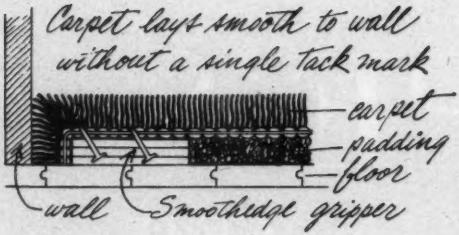
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how to get superior carpet installation by specifying **smoothedge** TACKLESS METHOD

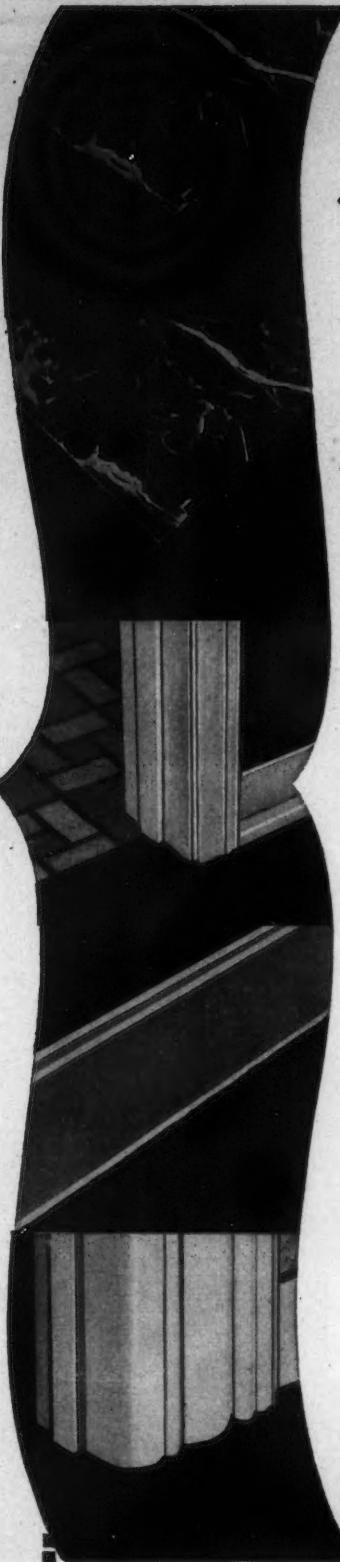


HOW **smoothedge** WORKS

"Smoothedge" gripper holds the carpet firmly and invisibly from underneath. As a result, ugly tack marks, bulges, and dust-catching indentations are eliminated. The carpet is also easier to take up for cleaning. No special provisions are required for either wood or concrete floors. To specify, merely state, "Carpet to be installed with Smoothedge carpet gripper, or equivalent."

RECOGNIZED AND AVAILABLE NATIONALLY

Handled by over 4,000 carpet retailers and by 68 leading carpet distributors. Recommended by the mills themselves for wall-to-wall carpet installations.



GET THIS • Smooth, beautiful effect at carpet edge. No ugly tack marks, scallops, dirt-catching indentations, or ripples.

← **SPECIFY *smoothedge*
TACKLESS INSTALLATION**

AVOID THIS • Ugly puckers or tack marks are eliminated when carpet is installed the modern "Smoothedge" tackless way.

← **SPECIFY *smoothedge*
TACKLESS INSTALLATION**

AT FLUSH DOORWAYS • Get unblemished appearance at this most noticeable area. You see only beautiful carpet, no tack marks with "Smoothedge."

← **SPECIFY *smoothedge*
TACKLESS INSTALLATION**

ELIMINATE TACK MARKS • Tack marks never improved the appearance of lovely wall-to-wall carpet. Even the best turn-and-tack job shows tack marks.

← **SPECIFY *smoothedge*
TACKLESS INSTALLATION**

AT DOOR JAMB • For smooth flowing carpet at door jambs, carpeted stairways, and wherever wall-to-wall carpet is installed, the floor covering looks its loveliest when you

← **SPECIFY *smoothedge*
TACKLESS INSTALLATION**

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1536 North Indiana Street, Los Angeles 33, California

GENTLEMEN:

Please send detailed, illustrated literature on "Smoothedge" tackless installation. Also send "Smoothedge" A.I.A. file.

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NO RUST *on* HOPE'S HOT-DIP GALVANIZED WINDOWS *after seven years at sea*

These windows, which were unpainted during seven years' exposure to salt spray and sea air, are still in excellent condition. Specify HOPE'S steel windows RUSTPROOFED BY HOT-DIP GALVANIZING and save more than its cost in decreased maintenance expense.

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6 reasons Why NATIONAL ELECTRIC SHERARDUCT CONDUIT *is better!*

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PROTECTED AGAINST ACIDS

1. Made of "Spellerized" steel for easy bending and clean-cut threads.

2. Scale-free—inside and out.

3. All rust-forming impurities removed before SHERARDIZING.

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5. All threads have the same zinc protection as the walls.

6. Acid-resisting Shera-Solution baked into the pores for added protection.

PROVED BY THE TEST OF TIME

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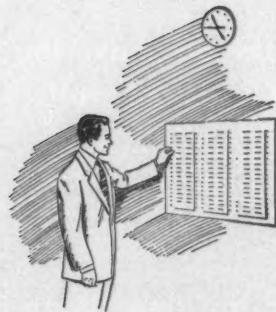
1327 CHAMBER OF COMMERCE BUILDING, PITTSBURGH 19, PA.





Xavier Hospital, Dubuque, Iowa. Architects and engineers—Schmidt, Garden & Erikson, Chicago.

The House of Healing on the Hill— ...high, too, in operating efficiency



"The patients in this hospital are benefiting from the very latest ideas in structural and operating efficiency." (From Hospital Management feature story about Xavier Hospital, Dubuque, Iowa.) Vital to this operating efficiency:

- (1) **Edwards Nurses' Call System** insures immediate attention by registering above door, at nurses' stations and utility rooms.
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Yes, all signaling and call equipment complete to the most minute detail. It's no wonder that the personnel accomplish their multiple tasks with such ease and high efficiency. In these days of unprecedented demands on nurses and doctors, Edwards equipment is basic to the smooth, time-saving operation of Xavier—or any modernly equipped hospital.

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EDWARDS

Hospital Signaling Systems

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Hauserman Movable Steel Interiors in new Florsheim Shoe Company office building and plant in Chicago. Architects and Engineers: Shaw, Metz & Dolio. Builders: Campbell-Lourie-Lautermilch Corp.

interiors that fit like FLORSHEIM SHOES...

AND LAST A LONG, LONG TIME

When you put on new Florsheims, you step into shoes that really fit and last a long, long time. And when you install Hauserman *Movable Steel Interiors* you step into surroundings that fit your building requirements for a long, long time.

That's why The Florsheim Shoe Company installed these modern, functional Interiors in its new factory and office building in Chicago. Hauserman Interiors are flexible. When administration or manufacturing methods require new floor layouts, the walls can be quickly and easily moved. What's more, these solid, rigid Hauserman *Movable Walls*

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One of our representatives would like to discuss all the advantages that Hauserman *Movable Steel Interiors* have for you. There's no obligation of course. A nationwide field force is ready to install, or move and re-erect Hauserman installations. Write *The E. F. Hauserman Company*, 6780 Grant Ave., Cleveland 5, Ohio and tell us when he can call. Or if you prefer, we'll send our fully illustrated catalog.



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Railings • Acoustical Ceilings
Complete Accessories

HAUSERMAN
Movable Steel Interiors

Organized for
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Since 1913



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NEW JOBS FOR YOU—

Waterproofing Spandrel Beams by
REVERE-SIMPLEX REGLET SYSTEM

- The Revere-Simplex Reglet System is an economical and efficient method of flashing spandrel beams and column faces with enduring copper. This system offers the following advantages:

Affords greater moisture protection for the building.

Eliminates the necessity of flashing the entire face of each spandrel beam. In that way, it not only avoids interference with wall ties, stone anchors, angle bolts, etc., but also insures substantial economies through a large saving in flashing material.

Diverts all seepage to the exterior wall face, and prevents rusting of the steel work.

Is based upon the use of the Revere-Simplex Reglet, which is a simple, practical, easily installed receiving device for securing metal flashings in concrete. This patented reglet provides a permanent watertight connection between concrete and copper flashing, for all concrete surfaces.

The Revere-Simplex Reglet not only overcomes installation difficulties experienced with ordinary "open slot" metal reglets, but provides a substantial saving in cost as well. This is due to its many exclusive features, all of which cut down installation time and insure a superior flashing installation.

Write today for your copy of the new 6-page folder which describes the Revere-Simplex Reglet System for flashing spandrel beams. You can line up *new* jobs—make *new* profits—through the use of this new Revere product that enables you to bid competitively against mopped-on waterproofing!

Revere products now available through your Revere Distributor include: Sheet and Roll Copper for roofing, gutters, flashing, etc.; Lead-Coated Copper; Revere-Keystone Thru-Wall Flashing; Revere-Simplex Reglet and Reglet Insert Flashing; Revere-Keystone Vertical Ribbed Siding. A Revere Technical Advisor will always be glad to consult with you without obligation.

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*Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; Los Angeles and
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Copper Makes Common Sense

Modern beauty in durable hardwood



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Block

Over either concrete slab or wood subfloors, a Bruce Block Floor is unsurpassed for beauty, durability, long-time economy ... and smart, modern design.

This distinctive floor will last the life of a home or building. Thus it's far more economical than floors or floor coverings that must be replaced periodically. It's a quiet, resilient, warm, comfortable floor ... easy

to keep clean and beautiful at all times.

Installation is simple: laid in mastic *directly* over concrete, or nailed over wood subfloor or old floor. Where *prefinished* Bruce Blocks are used, there's no sanding or finishing on the job.

See our new catalog in Sweet's Architectural or Builders' Files. Or write us for literature and information on specific jobs.

HARDWOOD FLOORS



Product of E. L. Bruce Co., Memphis, Tenn., World's largest maker of hardwood floors



Better for structural work

Cohesive, workable Duraplastic concrete mixes have proved their advantages for all types of construction work. Duraplastic air-entraining portland cement requires less mixing water for a given slump. Its increased plasticity aids proper placement and results in improved surface appearance.

Makes more durable concrete

Bleeding and segregation are minimized in Duraplastic air-entrained concrete. This fortifies the finished concrete against the effects of freezing-thawing weather. (Below, Promontory Apts. Architect: Pace Associates. Contractor: Peter Hamlin Construction Company—all of Chicago, Ill. Duraplastic cement used exclusively.)



YET DURAPLASTIC* COSTS NO MORE

It sells at the same price as regular cement and requires no unusual changes in procedure. Complies with ASTM and Federal Specifications. For descriptive booklet, write Universal Atlas Cement Company (United States Steel Corporation Subsidiary), 100 Park Avenue, New York 17, N. Y.

*"Duraplastic" is the registered trade mark of the air-entraining portland cement manufactured by Universal Atlas Cement Company.

ATLAS®

DURAPLASTIC

AIR-ENTRAINING PORTLAND CEMENT



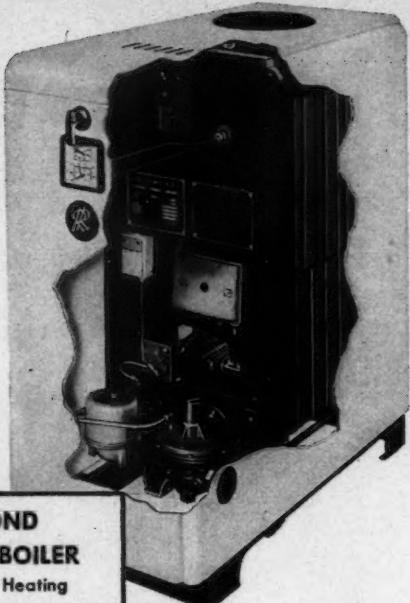
Makes Better Concrete at No Extra Cost

"THE THEATRE GUILD ON THE AIR"—Sponsored by U. S. Steel Subsidiaries—Sunday Evenings—NBC Network

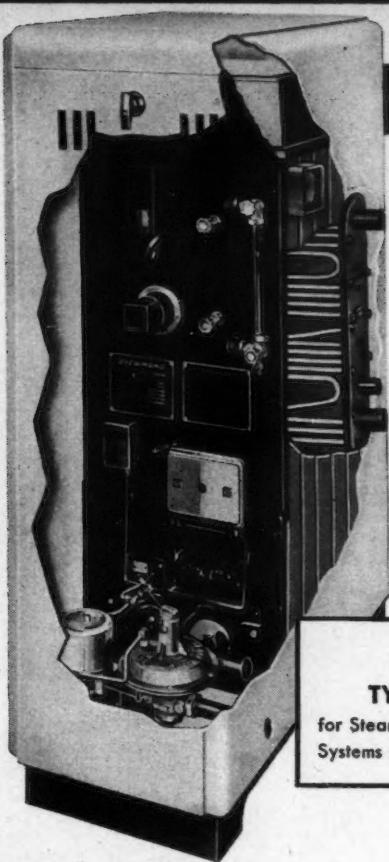
AR-D-112

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TYPE WFD BOILER
for Hot Water Heating
Systems



RICHMOND
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for Steam, Vapor and Hot Water
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- **WHITE JACKET**...baked white enamel casing of sturdy construction. Beautifully streamlined with smooth, rounded corners.

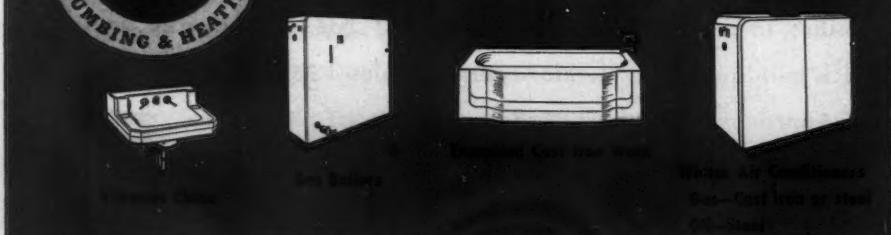
- **FIELD-PROVED**...to give trouble-free performance with minimum service...Richmond Boilers are extra efficient due to their "wet base" design... economical for maintenance and installation.

Consider together Richmond's improved design, construction and appearance and you know there are no better boilers to specify or install. AGA approved.



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Please send me additional information and
literature on the new Richmond Boilers. No
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COMPANY.....

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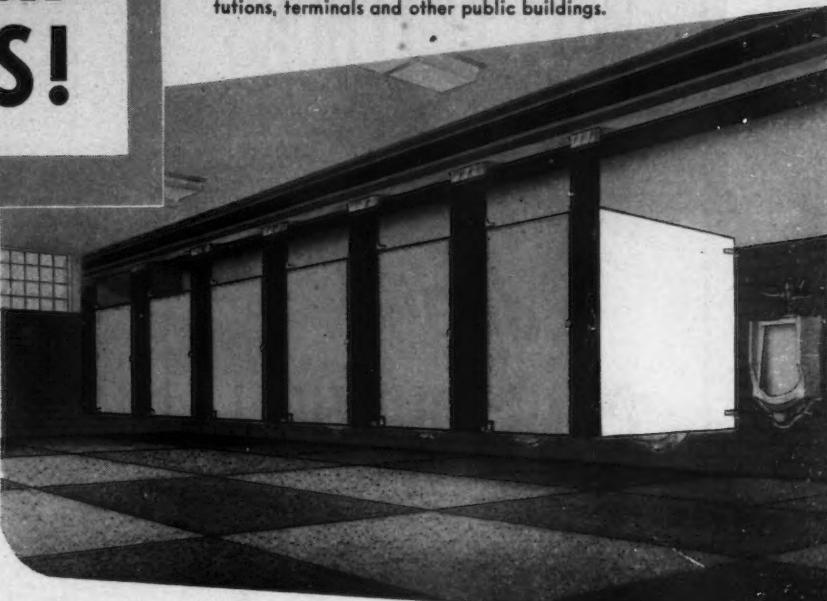


462-Family Apartment Project in Upper New York City—Commanding a sweeping view of the Hudson River, this new apartment project, now nearing completion in the tree-studded Riverdale section of New York City, has facilities for 462 families, in apartment units of from 2 to 4½ rooms. Known as Netherland Gardens, it consists of eleven 6-story brick buildings, each elevator-equipped, plus a 351-car garage. The steel-work is of Bethlehem Structural Shapes. Approximately 75 pct of the project's total plottage is to be landscaped. *Builders:* Albert Exelbert and Alfred Kaskel, New York. *Architects:* Seelig and Finkelstein, Brooklyn. *Steel Fabricator and Erector:* Sherry and Gordon, Inc., New York.



TOILET ROOM ENVIRONMENTS THAT STAY NEW ALWAYS!

Sanymetal CENTURY Type Ceiling Hung Toilet Compartments offer the utmost in sanitation and provide modern, distinctive toilet room environments for schools, institutions, terminals and other public buildings.



The toilet room environment that stays new is the toilet room in which the most suitable type of toilet compartment available has been installed. Toilet compartments usually dominate a toilet room, influence the toilet room environment and emphasize the utility of fixtures and appointments. The bare functional type of toilet room is inadequate according to today's standards.

Sanymetal offers several different types of toilet compartments for creating the most suitable toilet room environment for every type of building. Sanymetal also offers and recommends Two Full Purpose Metal Base Materials which combine colorful attractiveness with long years of service life and effect important, day after day, savings in cleaning and maintenance cost. These Two Full Purpose Metal Base Materials—Sanymetal "Tenac" (galvanized, Bonderized* steel), a highly corrosion-resistant material; and Sanymetal "Porcena" (porcelain on steel), the ageless and fadeless, rust proof material—represent years of engineering research and skillful adaptation by Sanymetal engineers of corrosion-resistant steels to the fabrication of new and different types of toilet compartments.

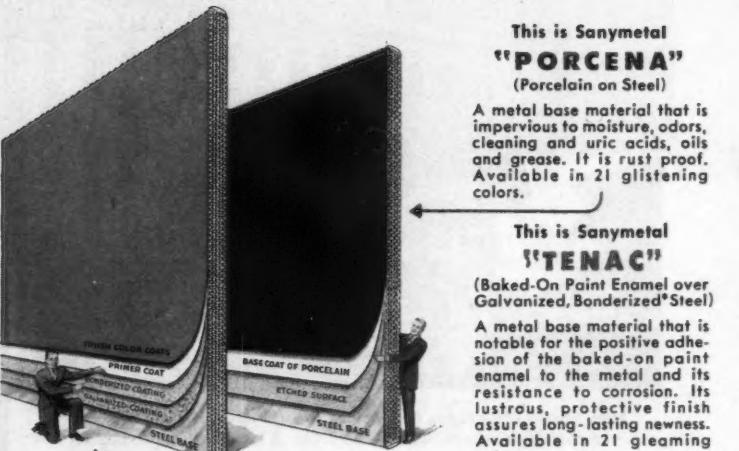
THE SANymetal PRODUCTS CO., INC.

1689 Urbana Road • Cleveland 12, Ohio



Over 150,000 Sanymetal installations have been made in all types of buildings. Ask the Sanymetal representative in your vicinity for information about planning suitable toilet room environments that will always stay new. Refer to Sanymetal Catalog 22b in Sweet's Architectural File for 1950.

5

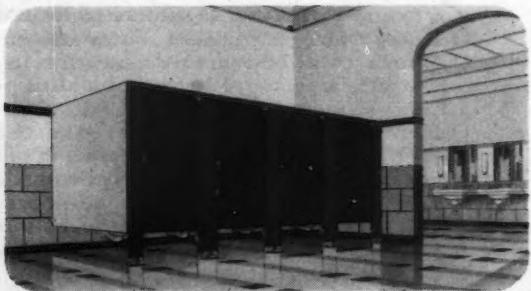


This is Sanymetal "PORCENA" (Porcelain on Steel)

A metal base material that is impervious to moisture, odors, cleaning and uric acids, oils and grease. It is rust proof. Available in 21 glistening colors.

This is Sanymetal "TENAC" (Baked-On Paint Enamel over Galvanized, Bonderized* Steel)

A metal base material that is notable for the positive adhesion of the baked-on paint enamel to the metal and its resistance to corrosion. Its lustrous, protective finish assures long-lasting newness. Available in 21 gleaming colors.



Sanymetal NORMANDIE Type Toilet Compartments endow a toilet room environment with dignity and good taste.

Sanymetal*

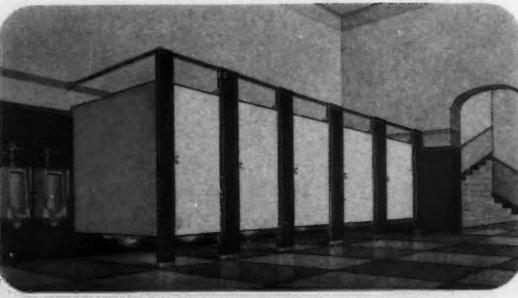
*Trade Mark Reg. U. S. Pat. Off.

*Treated with "Bonderite", a product of Parker Rust Proof Co.

TOILET COMPARTMENTS, SHOWER STALLS AND DRESSING ROOMS



Sanymetal ACADEMY Type Shower Stalls and Dressing Room Compartments provide the utmost in sanitation for gymnasiums, stadium dressing rooms, Y.M.C.A.'s, clubs, trailer camps and tourist motels, etc.



Sanymetal ACADEMY Type Toilet Compartments are suitable for conservative but modern toilet room environments.

WHY Q-FLOORS CUT COST *during* CONSTRUCTION

Count up the value of these factors:

materials saved in foundation and frame because of Q-Floor's lightweight construction;

forms, shoring, planking reduced to a minimum on a Q-Floor job;

subcontractors are favored by continuous work because of dry construction and the elimination of strict time schedule; they enjoy unlimited storage space on each floor near where material will be used;

construction time and financing cost saved because Q-Floor fast, dry installation cuts 15 to 20% off building time;

electrical layout changes during construction greatly reduced in cost because of the 100% availability of Q-Floor raceways;

extra revenue realized on investment by the earlier completion date.

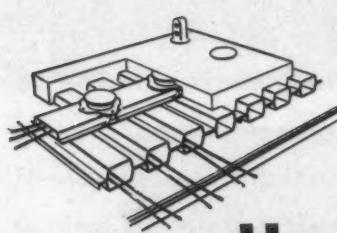


Iowa State Office Bldg., Des Moines, Iowa. Tinsley, Higgins & Lighter—architects; Kucharo Construction Co. & Associates—contractor.

ALL THESE SAVINGS, and some of them are intangibles, should be subtracted from the cost of Q-Floors, before you can quote the true price. Q-Floor's contribution to the savings in time and other materials gets greater as the building progresses.

Even without consideration of their savings, Q-Floors cost less than the carpet to cover them. Any floor, even the more expensive type, is only a small fraction of the total cost, yet many owners forget that

the floors are what the building is for. They ought to keep in mind that Q-Floors, besides saving money, also protect the building forever from elec-



United Benefit Life Insurance Co., Omaha, Neb. Tinsley, Higgins & Lighter—architects; Peter Kiewitt Sons, Inc.—contractor.

trical obsolescence . . . an electrician can install an outlet on any six-inch area in a matter of minutes. This is a feature which appeals strongly to tenants, too. It spares them the enormous bill for electrical alterations!

With competition opening up for modern rental space, can your clients afford to build *without* Q-Floors?

H. H. ROBERTSON CO.

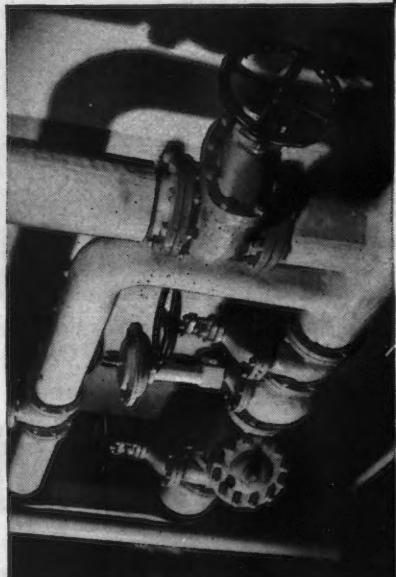
2404 Farmers Bank Building
Pittsburgh 22, Pennsylvania



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Architects
SHAW, METZ, & DOLIO, CHICAGO, ILL.
General Contractors
CAMPBELL-LOWRIE-LAUTERMILCH, INC.
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M. J. CORBOY CO., CHICAGO, ILL.



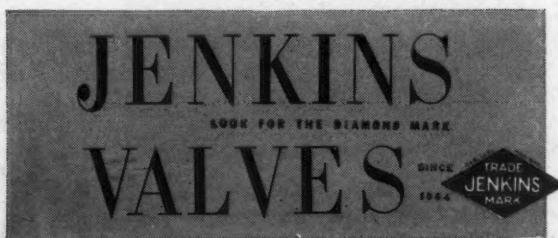
Among the 1022 Jenkins Valves installed in The Florsheim Shoe Company's combined factory-and-office building are these gate valves in the steam distribution lines of the heating system. Other Jenkins bronze, iron, and steel valves control water, air-conditioning, and such vital lines.

With its unbroken horizontal tiers of grey brick curtain walls which "seem to float in thin air", acres of glass their only visible means of support, the new home of The Florsheim Shoe Company in Chicago might be called an industrial "dream home"

It is certainly one of America's most notable examples of future-minded planning. Like the production machines used in cutting, lasting, stitching, and finishing Florsheim Shoes, the equipment installed for building operation is the most efficient modern engineering has devised. Here, Jenkins Valves "fit perfectly".

In fact, because of their dependability, safety and lasting economy, Jenkins Valves have been the choice, consistently, of leading architects, engineers and contractors for the towering skyscrapers, huge industrial plants, and super airports that are making today's building news.

Jenkins builds extra endurance into valves — proved by low upkeep cost records in every type of service. Yet, despite this extra value, *you pay no more* for Jenkins Valves. For new installations, for all replacements, let the Jenkins Diamond be your guide to lasting valve economy. Jenkins Bros., 100 Park Ave., New York 17; Jenkins Bros., Ltd., Montreal



*Sold through
leading Distributors
everywhere.*

four good things



1. Attractive and practical as well is this Nairn installation in the Aetna Insurance Company.

...the 4-square features of

Clients quickly see your wisdom in specifying Nairn Linoleum—it talks clients' own language so convincingly!

Long Life—Nairn installations of 30 years ago are still going strong—under heaviest service!

Enduring Beauty—a wide range of colors and patterns gives unlimited scope for decorative schemes—and they'll stay fresh and attractive!

Easy Maintenance—its smooth, crevice-free, sanitary surface keeps clean with minimum labor. Nairn Linoleum never requires costly refinishing.

True Resilience—so foot-easy and quiet, no other material assures such dollar value in long, trouble-free service. Moderate in first cost, satisfied users specify it again and again for use under every type of traffic.

For your specifications: Nairn Linoleum—
Nairn Wall Linoleum—Nairn Asphalt Tile.
Congoleum-Nairn Inc., Kearny, New Jersey



NAIRN LINOLEUM

Trademark ®

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S to stand on . . .



Hartford, Conn. Extremely durable, Nairn gives trouble-free service for years and years.



2. This lobby and reception room of Radio Station WTIC, Travelers Insurance Company, Hartford, Conn., is sensibly floored with Nairn Linoleum for quiet, foot-easy walking.



3. The cleanliness of crevice-free Nairn Linoleum makes for easy maintenance in this room and increases sanitation at the Mercer General Hospital, Trenton, N. J.



4. A typical Nairn installation in the Lincoln School, Lincoln, Mass., provides long, quiet, trouble-free service . . . proper light reflectance . . . easy maintenance with its crevice-free surface.



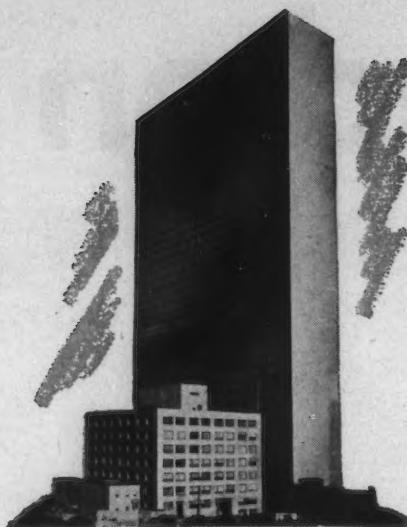
For FLOORS
and WALLS

1. Long Life
2. Enduring Beauty
3. Easy Maintenance
4. True Resilience



ONE HUNDRED PARK AVENUE—49,000 feet of G-E Fiberduct for electrical flexibility.

Architects: Kahn and Jacobs • Engineers: Jaros, Baum and Bolles • Electrical Engineers: Smith and Silverman • General Contractors: George A. Fuller Co. • Electrical Contractors: Fischbach and Moore, Inc.



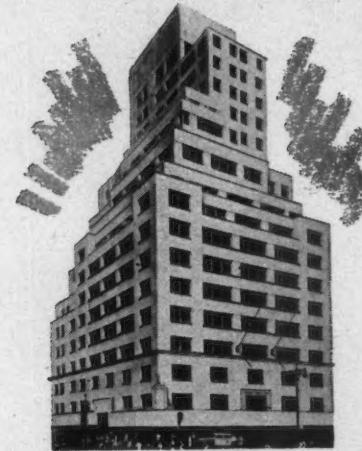
UNITED NATIONS SECRETARIAT—225,000 feet of Fiberduct used in a triple-duct system.

Architects: Harrison and Abramovitz • Engineers: Syska and Hennessy, Inc. • General Contractors: Fuller-Turner-Walsh-Slatery, Inc. • Electrical Contractors: Fischbach and Moore, Inc.



METROPOLITAN LIFE INSURANCE CO.—72,000 feet of G-E Fiberduct underfloor raceways.

Architect: A. O. Angilly • Engineers: Mayer, Strong, and Jones • General Contractors: Starrett Bros. and Eken, Inc. • Electrical Contractors: Lord Electric Co., Inc.



CROWELL-COLIER BUILDING—a 35,000-foot over-all Fiberduct raceway pattern.

Architects: Leonard Schulze and Associates: Walker and Poor • Consulting Engineers: Edward E. Ashley, Inc. • General Contractors: Starrett Bros. and Eken, Inc. • Electrical Contractors: L. K. Comstock and Co., Inc.



THE MUTUAL LIFE BUILDING—a 99,000-foot G-E Fiberduct installation.

Architects: Shreve, Lamb, and Harmon Associates • Engineers: Jaros, Baum and Bolles • Electrical Engineers: Clark, MacMullen, and Reiley • General Contractors: Turner Construction Co. • Electrical Contractors: Lord Electric Co., Inc.

GENERAL  ELECTRIC

Blo-Fan*

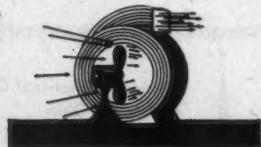
In ventilation-
"THE BLADE'S
THE THING"



Blo-Fan

REALLY MOVES AIR

The Blo-Fan blade is designed so that the fan element literally scoops up the air, keeping the blower element supercharged at all times. This patented design combines the volume of a breeze fan and the power of a blower to expel more air quickly, quietly and with greater efficiency.



Blo-Fan

IS EASY TO REGULATE

This NINE-speed switch is an exclusive feature on Blo-Fan Model 210... At low to medium speeds, Blo-Fan will easily handle the normal volume of steam and fumes, but in emergencies (like burning the toast) a higher speed will clear the room immediately.



Blo-Fan

IS EASY TO CLEAN

NO TOOLS ARE EVER REQUIRED. Both grille and motor assembly are removed easily in less than a minute for cleaning and washing. Just unscrew the center cap.

Blo-Fan

PAYS FOR ITSELF

Savings on soap, detergents and cleaning compounds will pay for Blo-Fan in a short time—not to mention the savings on redecorating costs, elimination of back-breaking work, housemaid's knee and calloused hands!



The entire unit fits flush with the finished ceiling or wall.



The motor is rubber mounted to insure quiet operation.



Only the attractive, chrome-finished grille is visible.

Blo-Fan*

AMERICA'S MOST IMITATED HOME VENTILATOR

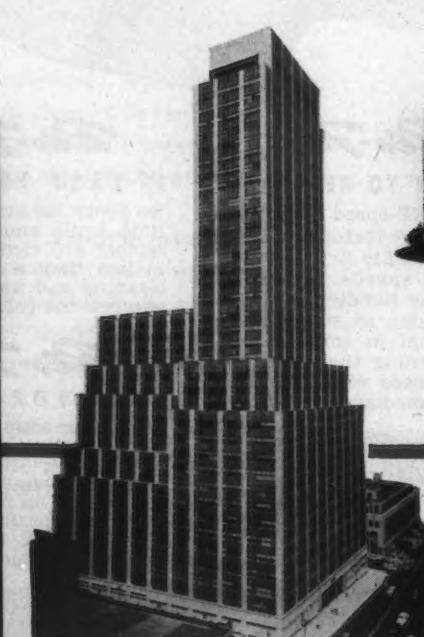
100-120-150-170-210-250-270-300-350-400-450-500-550-600-650-700-750-800-850-900-950-1000-1050-1100-1150-1200-1250-1300-1350-1400-1450-1500-1550-1600-1650-1700-1750-1800-1850-1900-1950-2000-2050-2100-2150-2200-2250-2300-2350-2400-2450-2500-2550-2600-2650-2700-2750-2800-2850-2900-2950-3000-3050-3100-3150-3200-3250-3300-3350-3400-3450-3500-3550-3600-3650-3700-3750-3800-3850-3900-3950-4000-4050-4100-4150-4200-4250-4300-4350-4400-4450-4500-4550-4600-4650-4700-4750-4800-4850-4900-4950-5000-5050-5100-5150-5200-5250-5300-5350-5400-5450-5500-5550-5600-5650-5700-5750-5800-5850-5900-5950-6000-6050-6100-6150-6200-6250-6300-6350-6400-6450-6500-6550-6600-6650-6700-6750-6800-6850-6900-6950-7000-7050-7100-7150-7200-7250-7300-7350-7400-7450-7500-7550-7600-7650-7700-7750-7800-7850-7900-7950-8000-8050-8100-8150-8200-8250-8300-8350-8400-8450-8500-8550-8600-8650-8700-8750-8800-8850-8900-8950-9000-9050-9100-9150-9200-9250-9300-9350-9400-9450-9500-9550-9600-9650-9700-9750-9800-9850-9900-9950-10000-10050-10100-10150-10200-10250-10300-10350-10400-10450-10500-10550-10600-10650-10700-10750-10800-10850-10900-10950-11000-11050-11100-11150-11200-11250-11300-11350-11400-11450-11500-11550-11600-11650-11700-11750-11800-11850-11900-11950-12000-12050-12100-12150-12200-12250-12300-12350-12400-12450-12500-12550-12600-12650-12700-12750-12800-12850-12900-12950-13000-13050-13100-13150-13200-13250-13300-13350-13400-13450-13500-13550-13600-13650-13700-13750-13800-13850-13900-13950-14000-14050-14100-14150-14200-14250-14300-14350-14400-14450-14500-14550-14600-14650-14700-14750-14800-14850-14900-14950-15000-15050-15100-15150-15200-15250-15300-15350-15400-15450-15500-15550-15600-15650-15700-15750-15800-15850-15900-15950-16000-16050-16100-16150-16200-16250-16300-16350-16400-16450-16500-16550-16600-16650-16700-16750-16800-16850-16900-16950-17000-17050-17100-17150-17200-17250-17300-17350-17400-17450-17500-17550-17600-17650-17700-17750-17800-17850-17900-17950-18000-18050-18100-18150-18200-18250-18300-18350-18400-18450-18500-18550-18600-18650-18700-18750-18800-18850-18900-18950-19000-19050-19100-19150-19200-19250-19300-19350-19400-19450-19500-19550-19600-19650-19700-19750-19800-19850-19900-19950-20000-20050-20100-20150-20200-20250-20300-20350-20400-20450-20500-20550-20600-20650-20700-20750-20800-20850-20900-20950-21000-21050-21100-21150-21200-21250-21300-21350-21400-21450-21500-21550-21600-21650-21700-21750-21800-21850-21900-21950-22000-22050-22100-22150-22200-22250-22300-22350-22400-22450-22500-22550-22600-22650-22700-22750-22800-22850-22900-22950-23000-23050-23100-23150-23200-23250-23300-23350-23400-23450-23500-23550-23600-23650-23700-23750-23800-23850-23900-23950-24000-24050-24100-24150-24200-24250-24300-24350-24400-24450-24500-24550-24600-24650-24700-24750-24800-24850-24900-24950-25000-25050-25100-25150-25200-25250-25300-25350-25400-25450-25500-25550-25600-25650-25700-25750-25800-25850-25900-25950-26000-26050-26100-26150-26200-26250-26300-26350-26400-26450-26500-26550-26600-26650-26700-26750-26800-26850-26900-26950-27000-27050-27100-27150-27200-27250-27300-27350-27400-27450-27500-27550-27600-27650-27700-27750-27800-27850-27900-27950-28000-28050-28100-28150-28200-28250-28300-28350-28400-28450-28500-28550-28600-28650-28700-28750-28800-28850-28900-28950-29000-29050-29100-29150-29200-29250-29300-29350-29400-29450-29500-29550-29600-29650-29700-29750-29800-29850-29900-29950-30000-30050-30100-30150-30200-30250-30300-30350-30400-30450-30500-30550-30600-30650-30700-30750-30800-30850-30900-30950-31000-31050-31100-31150-31200-31250-31300-31350-31400-31450-31500-31550-31600-31650-31700-31750-31800-31850-31900-31950-32000-32050-32100-32150-32200-32250-32300-32350-32400-32450-32500-32550-32600-32650-32700-32750-32800-32850-32900-32950-33000-33050-33100-33150-33200-33250-33300-33350-33400-33450-33500-33550-33600-33650-33700-33750-33800-33850-33900-33950-34000-34050-34100-34150-34200-34250-34300-34350-34400-34450-34500-34550-34600-34650-34700-34750-34800-34850-34900-34950-35000-35050-35100-35150-35200-35250-35300-35350-35400-35450-35500-35550-35600-35650-35700-35750-35800-35850-35900-35950-36000-36050-36100-36150-36200-36250-36300-36350-36400-36450-36500-36550-36600-36650-36700-36750-36800-36850-36900-36950-37000-37050-37100-37150-37200-37250-37300-37350-37400-37450-37500-37550-37600-37650-37700-37750-37800-37850-37900-37950-38000-38050-38100-38150-38200-38250-38300-38350-38400-38450-38500-38550-38600-38650-38700-38750-38800-38850-38900-38950-39000-39050-39100-39150-39200-39250-39300-39350-39400-39450-39500-39550-39600-39650-39700-39750-39800-39850-39900-39950-40000-40050-40100-40150-40200-40250-40300-40350-40400-40450-40500-40550-40600-40650-40700-40750-40800-40850-40900-40950-41000-41050-41100-41150-41200-41250-41300-41350-41400-41450-41500-41550-41600-41650-41700-41750-41800-41850-41900-41950-42000-42050-42100-42150-42200-42250-42300-42350-42400-42450-42500-42550-42600-42650-42700-42750-42800-42850-42900-42950-43000-43050-43100-43150-43200-43250-43300-43350-43400-43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Quality-Approved ALUMINUM

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PAINTING
GOOD
LOOKS
LONG
WEAR



100 Park Avenue Building
New York City, N. Y.
Architects: Kahn and Jacobs



Georgia Baptist Hospital
Atlanta, Georgia
Architects: Stevens & Wilkinson, Inc.



Cincinnati Chemical Company
Cincinnati, Ohio
Designers: The Austin Company

QUALITY
APPROVED

(TYPE I)
ALUMINUM & ALUMINUM-CLAD
WINDOWS & DOORS
TESTED AND APPROVED
BY INDEPENDENT
TESTING LABORATORY
ALUMINUM WINDOW MANUFACTURERS ASSOCIATION

this seal assures you the "most window"

WINDOWS!

It's easy to pick the best material for windows—aluminum. Today almost everyone knows about the many advantages this wonder metal puts in a window.

But how to pick the best kind of aluminum windows? With dozens of makes to choose from, how to be sure that the quality of the windows you choose will measure up to your specifications?

That's easy, too.

You simply specify "Quality-Approved" aluminum windows.

That way you'll always be sure of getting the "most window"—the one that gives you all the advantages of aluminum windows at their finest.

You'll know the windows have been thoroughly *tested and approved* by an independent laboratory—for quality of materials, strength of sections, minimum air infiltration, and sound construction. Only those manufacturers whose windows pass these tests may use this "Quality-Approved" Seal.

That's why it's good business, for you and your clients, to choose only "Quality-Approved" aluminum windows—double-hung, casement or projected—for any type of building.

See complete specifications for "Quality-Approved" aluminum windows in Sweet's (Section 17a/Alu), or for other information consult any Association member, or write directly to the address below, Dept. Desk AR-12.

Aluminum Window Manufacturers Association

74 TRINITY PLACE, NEW YORK 6, N. Y.

MEMBERS:

A. B. C. Steel Equipment Co., Inc., Tampa, Florida * The Adams & Westlake Co., Elkhart, Indiana
Alcasco Products Co., Muskegon, Michigan * Aluminum Home Products Co., Knoxville, Tenn. * Alsco, Inc., Akron, Ohio
All-Lite Metal Window Co., Bristol, Pa. * The Wm. Bayley Co., Springfield, Ohio * Cupples Products Corp., St. Louis, Mo.
Michael Flynn Mfg. Co., Philadelphia, Pa. * General Bronze Corp., (and its subsidiary The Aluminum Window Corp.), Garden City, N. Y.
Metal Arts Mfg. Co., Inc., Atlanta, Ga. * Reynolds Metals Co., (Parts Division), Louisville, Ky. * J. S. Thorn Co., Philadelphia, Pa.
Sterling Windows, Inc., New York, N. Y. * Timm Industries, Inc., Los Angeles, Calif. * Union Aluminum Co., Inc., Sheffield, Ala.
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LATEST GREAT PLANT FOR CONTINENTAL CAN

BARRETT PROVIDES THE ROOF



Engineers and Genl. Contractors: Wigton-Abbott Corp., Plainfield, N. J.

Roofing Contr.: Limbach Co., Pittsburgh, Pa.

One of the recent important additions to Pittsburgh's industrial plants is the Continental Can Company's large new structure near the County Airport. Its extensive flat roof is built of Barrett* coal-tar pitch and coal-tar saturated felt. Barrett Roofs are the longest-lasting, best-value roofs that can be had. They usually out-last their 20-year bond by many years, and carry Fire Underwriters' Class "A" Rating, too.

SEE BARRETT'S CATALOG IN "SWEET'S"

1 Barrett roofs are applied by Barrett Approved Roofers according to rigid Barrett requirements and specifications, developed through years of successful roofing experience.

2 They are built up of alternate layers of finest grade coal-tar pitch and felt. Pitch, the life-blood of the roof, is impervious to water and unexcelled as a waterproofing agent.

3 Top-quality felt of Barrett's own manufacture holds the pitch in place and permits the use of greater quantities of this waterproofing than would otherwise be possible.

4 Final steps are a triple-thick coating of pitch — poured, not mopped — plus an armored surface of gravel or slag. Result is a roof that takes Fire Underwriters' Class "A" Rating.



*Reg. U. S. Pat. Off.

Barrett

THE BARRETT DIVISION

ALLIED CHEMICAL & DYE CORPORATION
40 Rector Street, New York 6, N. Y.

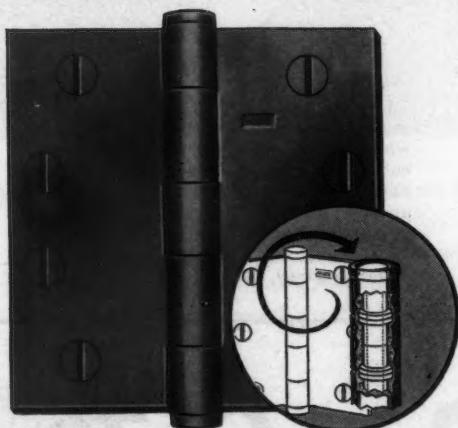
36th St. & Gray's Ferry Ave., Philadelphia 46, Pa.
205 W. Wacker Drive, Chicago 6, Ill.
1327 Erie Street, Birmingham 8, Alabama

In Canada: The Barrett Company, Ltd., 5551 St. Hubert St., Montreal, P. Q.



TOM HENDERSON
TOM HENDERSON
FAMOUS COLLIER'S CARTOONIST

"Why, Mr. Ellis . . . don't you know that
EVERYTHING HINGES ON HAGER!"



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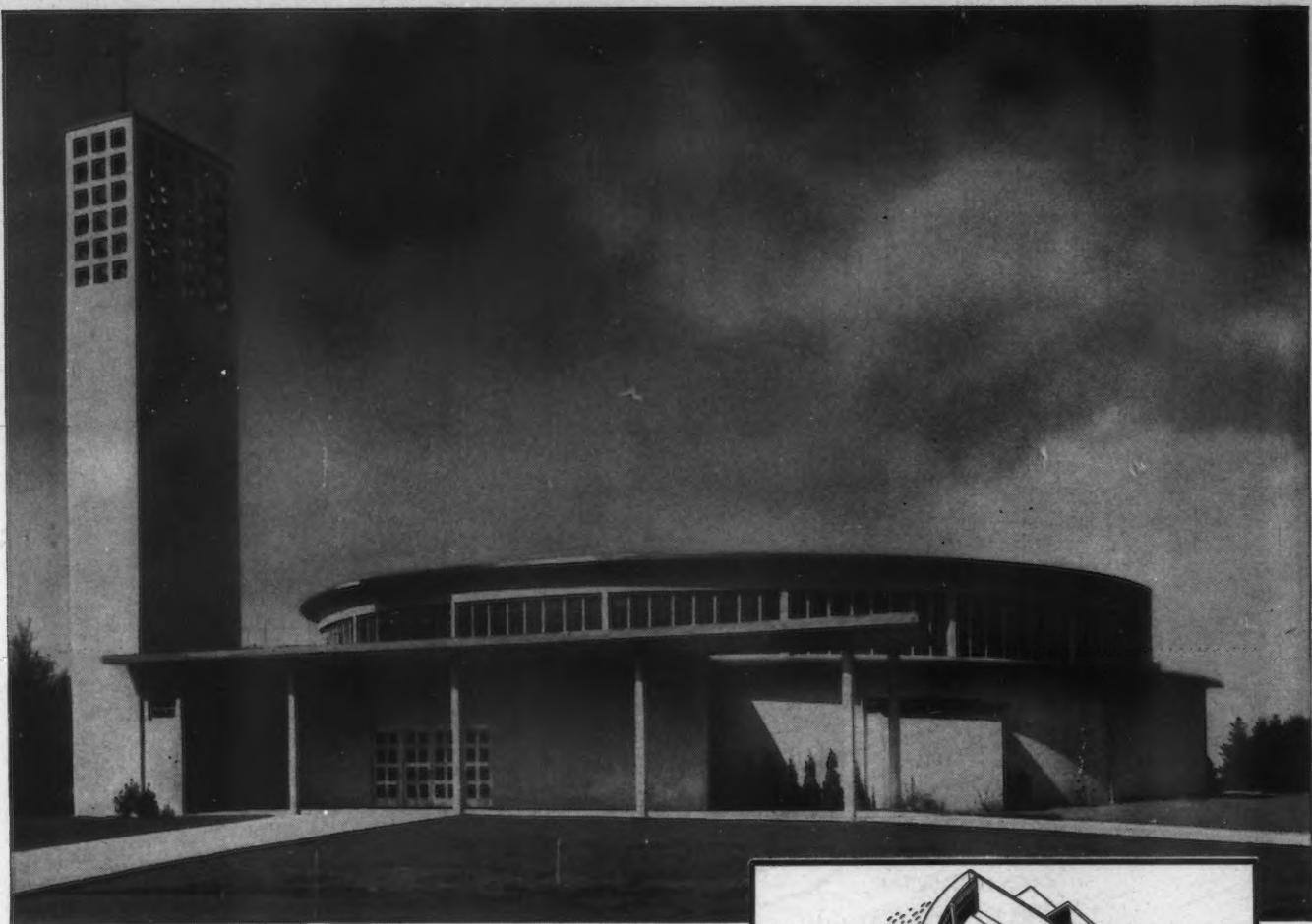
Door weight swings on case-hardened, cadmium plated steel bushings, extending the full length of each knuckle. These hardened steel bushings—steel-against-steel—actually support door weight . . . leave brass knuckles free from erosive joint wear and friction. Beveled leaves insure close-fitting joints. Trim, square outer edges are firmly milled sharp and clean. Steel Pin with Brass Tip.

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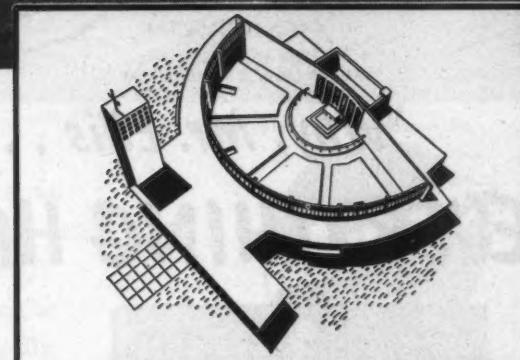
"Plywood Offered Best Solution to Form Problems,"

Says Seattle Architect Paul Thiry

CONCRETE surfaces for this Seattle, Washington, church had to be smoothly curved to carry out the simple dignity of the design. Architect Paul Thiry specified Douglas fir plywood forms.

"The panel material," he says, "offered a simple and most economical solution to the twin problems of smooth concrete and curved structure. Plywood is easy to use. It produces smoother surfaces with a minimum of finishing and is readily bent to the desired radius."

On small jobs and large, Douglas fir plywood has proved its ability to do the unusual and the difficult in form work. Employ its advantages to the fullest!

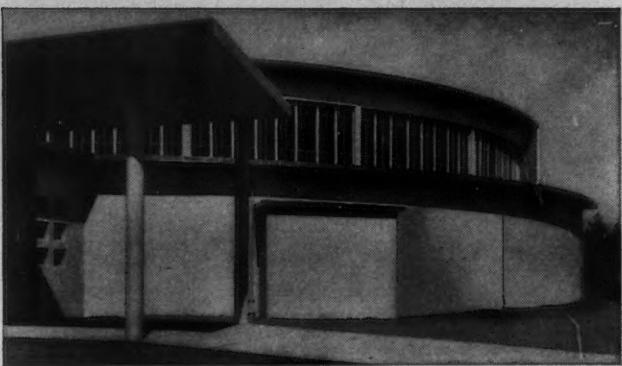


Church of Christ The King, Seattle—a striking departure from traditional treatment. Curved walls were formed with 4'x8' $\frac{5}{8}$ " plywood, nailed horizontally to 2"x12" wales, bandsawed to desired radius. Wale were placed together, 24" to 30" o.c. In no place were they sawn to less than 3 inches. Double wales were backed with 2"x4" studs, 12" o.c. The Austin Company, Seattle, were the builders.

**Douglas Fir
Plywood**

AMERICA'S

Smooth, Curved Surfaces Easily Achieved with Plywood



Douglas fir plywood forms were easily bent to produce the smooth curve of the outer walls. Canopy over the main entrance and the bell tower were also formed against $\frac{5}{8}$ " plywood. Concrete bands above and below the clerestory windows were formed with $\frac{1}{4}$ " plywood, backed by bandsawed 2"x12" wales and 2"x4" studs.



The half-circle shape of the structure affords a fan-shaped seating arrangement which brings the entire congregation close to the altar. Reinforced concrete construction eliminates the need for supporting columns which block vision.



Large, Light, Strong Real Wood Panels

For additional data on Douglas fir plywood for concrete form work, see Sweet's File, Architectural, or write (USA only) Douglas Fir Plywood Association, Tacoma 2, Washington. Of particular interest are two booklets: "Concrete Forms of Douglas Fir Plywood" and "Handling PlyForm."

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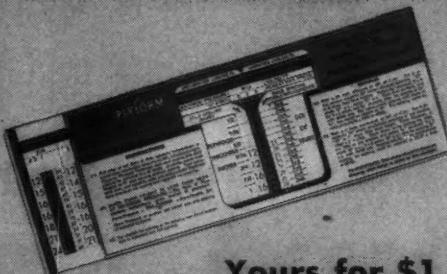
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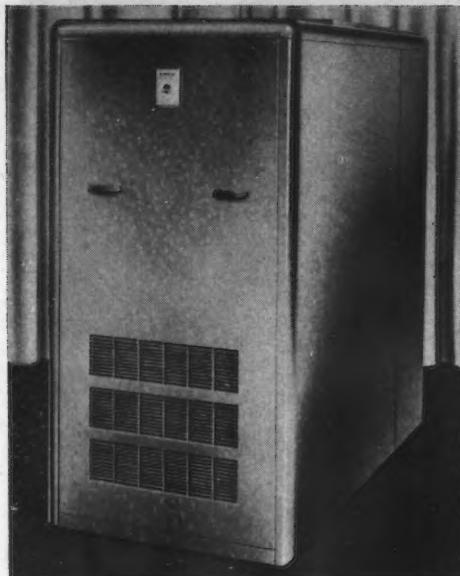


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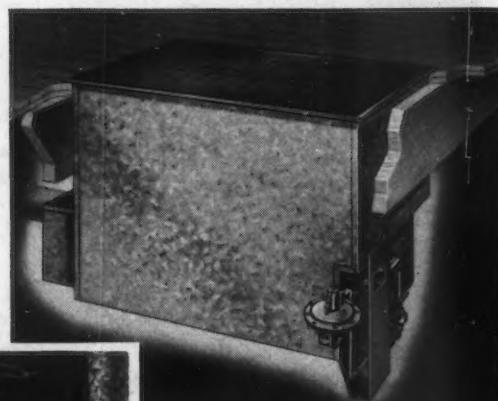
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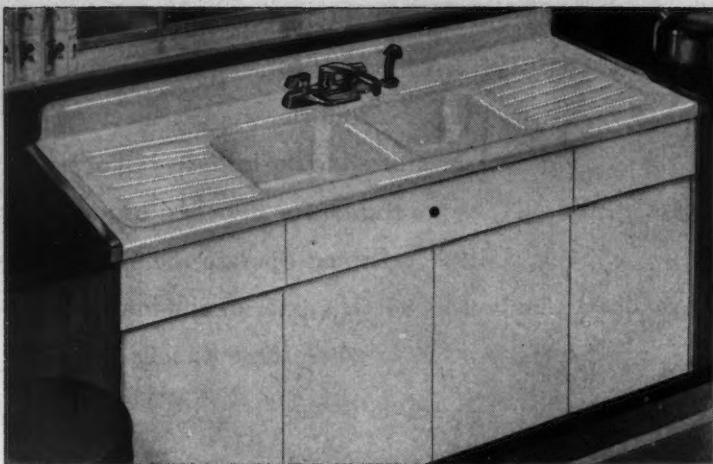
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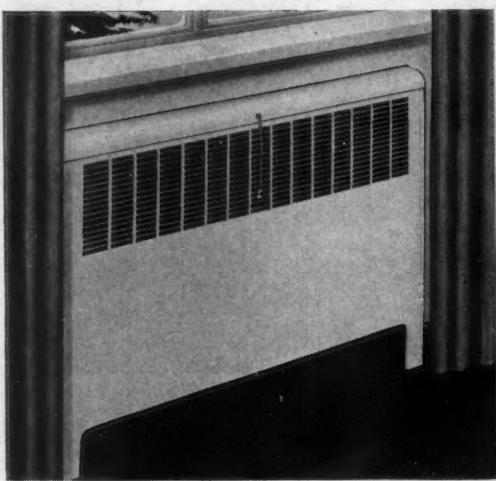
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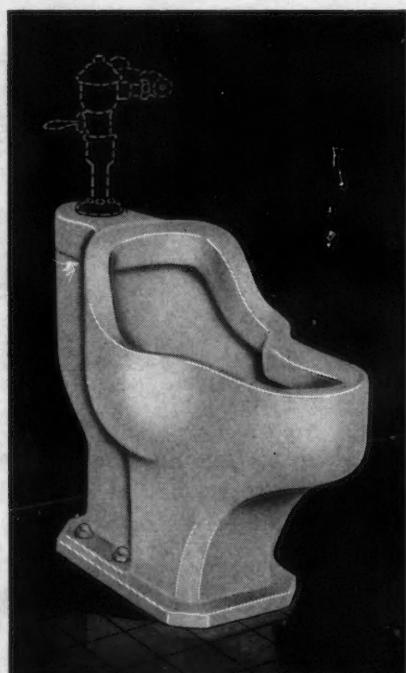
With the new American-Standard Catalogue it is amazingly simple to choose quickly and accurately just the right plumbing fixtures and fittings for every job. Your Heating and Plumbing Contractor will be glad to give you full information on the complete American-Standard line. **American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.**



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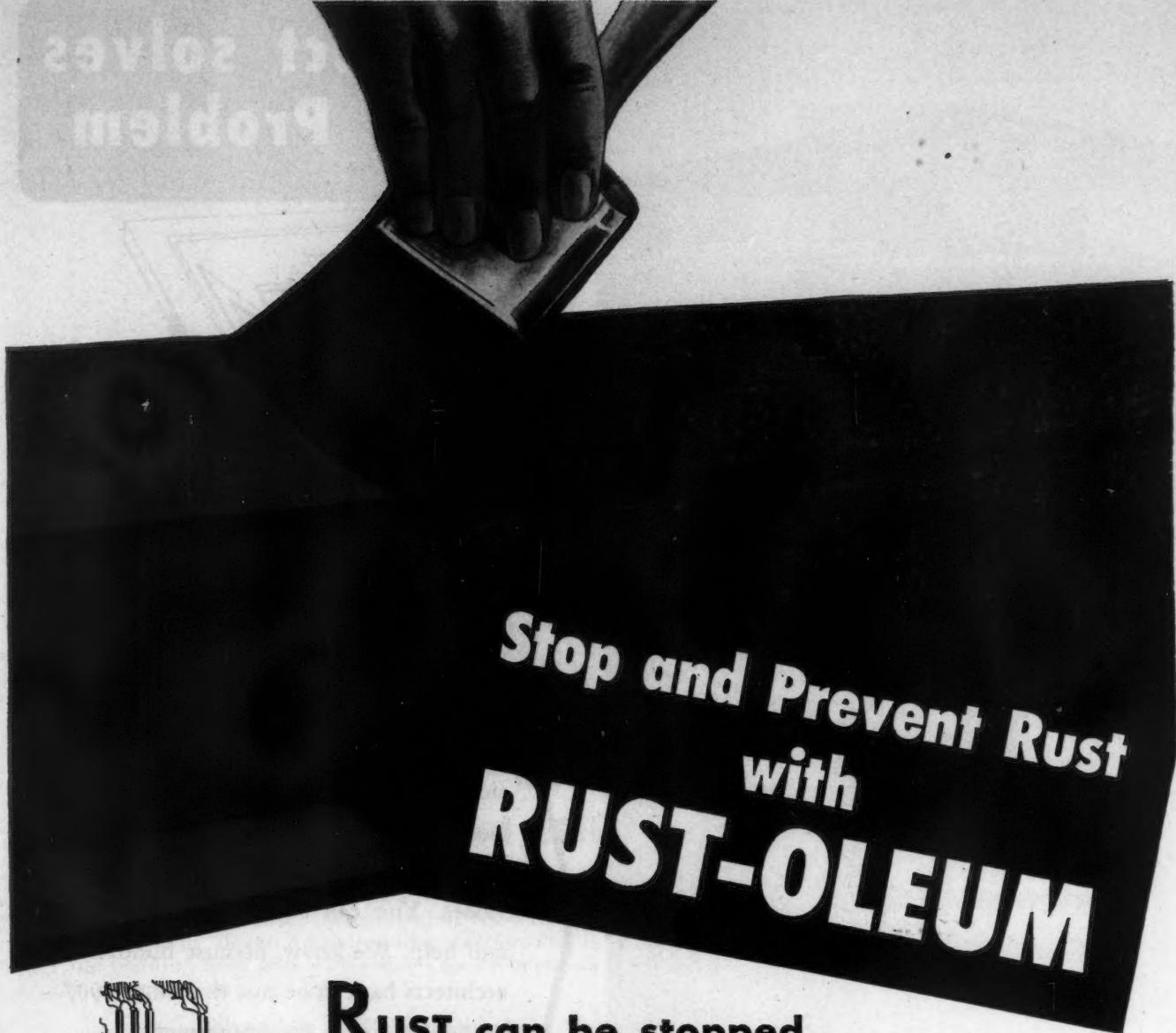
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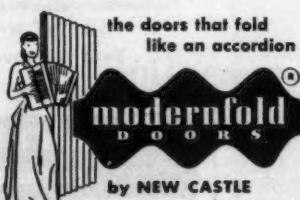
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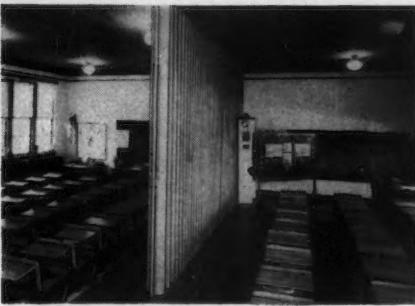
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AIR CONDITIONING THE CHAIN DEPARTMENT STORE

by Robert A. Schauer, M. E., Construction Department, J. C. Penney Company, Inc.



ROBERT A. SCHAUER,
associated with the Construction Department of the J. C. Penney Co., Inc., is a registered professional engineer and a member of The American Society of Heating and Ventilating Engineers. He has been engaged in the field of air conditioning engineering for the past 15 years and has specialized in department-store air conditioning throughout the United States.

THE windowless structure that houses today's department store makes air conditioning as much a part of the building as the heating and lighting systems. High lighting and occupancy loads require air conditioning both during summer months and in spring and fall seasons, as well, in the northern states, and the year around in southern states.

DESIGN DATA

It has been common practice to design air conditioning for department stores to maintain inside conditions of 80°F.D.B. and 50% R.H. In areas where the design outdoor wet bulb is below 70°F., however, 40 to 45% R.H. proves more comfortable. Where systems are designed to maintain 80°F.D.B. they are frequently operated at 75°F.D.B. and, unless the system has excessive capacity, when outdoor temperatures approach the design condition, the inside temperature will gradually rise above 75°F., maintaining the 80°F.D.B. and 50% R.H. condition under maximum load.

HEAT GAIN

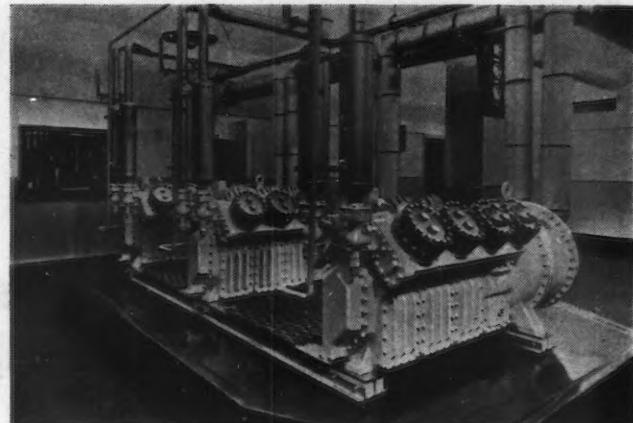
The heat gain of a department or variety store is fairly constant. Lights, people and outdoor air account for 80 to 90% of it because of the adequate roof insulation and absence of windows.

The average modern store structure will have a lighting load of between 4 or 5 watts per sq. ft. of floor area; an occupancy load of 1 person for each 40 sq. ft. in basement, first-floor and balcony areas; 1 person for each 50 sq. ft. of second-floor areas and 60 sq. ft. above the second floor. Minimum air quantities for ventilation have been established at 10 C.F.M. of outdoor air per person or one air change per hour, whichever is the greater quantity.

Engineering records show that, due to the difference in amount of heat in ventilation air, average department stores require approximately 1 ton capacity for each 275 sq. ft. gross floor area in the 76 to 80°F.W.B. location and the same capacity for each 300 sq. ft. in 72 to 76°F.W.B. areas, and for each 325 sq. ft. in 68 to 72°F.W.B. zones.

ZONING

Each floor of the store should be considered a separate zone with individual cooling and heating systems, although it is often desirable and economical to install two or more zones where floor areas are unusually large. Balcony areas should always be a separate zone. Zoning provides constant temperatures and also reduces operating expenses by preventing excess cooling or heating caused by diversion of occupancy loads in the separate zones.



Photo—Courtesy Westinghouse Electric Corp.

AIR QUANTITIES

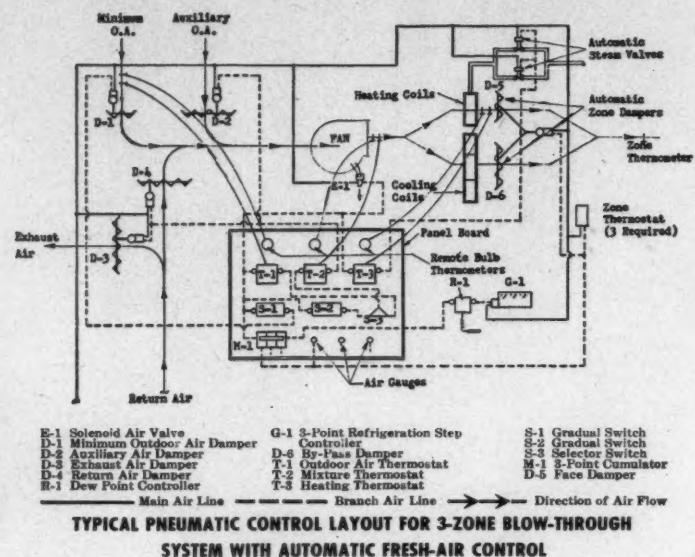
Since total air circulated is determined by the internal sensible heat gain, required air quantities vary considerably with the ceiling heights and location of various floors. Variance will be from approximately 4 to 4½ air changes per hour for basements to 7 to 8 air changes for top floors having high roof loads. It is recommended that not less than 5 air changes per hour be provided for any area, although at least one state requires a minimum of 6 air changes per hour.

EQUIPMENT SELECTION

Equipment selection is an important part in the design of any air conditioning system, and the requirements of a chain department store do not vary greatly from those of systems in other occupancies.

Coil velocities should be between 500 and 600 FPM and the evaporator temperatures selected at 46 to 48° F. for most efficient compressor operation. **Fan outlet velocities** should not exceed 1600 FPM for backward inclined fans; 1800 FPM for forward curved fans. **Motors** should not operate at overloaded conditions, and for maximum life, fan drives should be sized 125 to 150% of fan-brake horsepower.

Reciprocating compressors generally limited to systems under 200-ton capacity should be equipped with capacity reduction devices to operate efficiently at reduced loads. This is usually by cylinder unloading and can be externally controlled by suction pressure, temperature or dew-point control. **Centrifugal compressors** for systems over 200 tons should have



wound rotor motors and automatic suction dampers so that operators can manually vary speed of compressor, the damper smoothing out the operation between speeds. Direct expansion is normally used in systems up to 150 tons; chilled water for those of greater capacity. **Water-saving equipment** is economically important. Cooling towers of induced draft design will prove more satisfactory than atmospheric towers. They are smaller; have less objectionable appearance. Where local codes permit, towers of Redwood cased, basin, and fill type are recommended as they require no painting and minimum maintenance.

CONTROL

For reasons of economy, automatic temperature controls should govern both refrigeration and the introduction of outdoor air; the latter being a particularly important feature for cooling during intermediate seasons. In modern windowless structures with high lighting and occupancy loads, cooling is often necessary even when outside temperatures fall as low as 30° F. For this reason, and because average air conditioning systems maintain inside conditions when introducing 60° F. air, cooling can be accomplished during intermediate seasons by the use of outdoor air alone.

In central plant systems of the blow-through type, control of outdoor air can be accomplished by modulating the main outdoor air dampers and return air dampers in response to a thermostat in the fan discharge. This thermostat is usually set to maintain a constant fan discharge temperature of 60° F. When desired, it can be re-set by an outdoor thermostat to vary the fan discharge temperature with changes in outdoor temperatures.

Where a single zone is employed or individual units for each zone are installed, outdoor air and return air dampers can be placed directly under control of the zone thermostat in se-

quence with refrigeration controls.

With either-type system an auxiliary thermostat in the outdoor stream can be installed to return outdoor air dampers to their minimum position when outdoor temperature exceeds 65° F.W.B. or 75° F.D.B.

In large systems it will be necessary to install exhaust systems and automatic exhaust dampers to operate in sequence with the outdoor air dampers to relieve the pressure within the building when introducing large quantities of outdoor air.

DUCT DESIGN

Duct design should provide noiseless, draftless, and an even distribution of air throughout the entire air conditioned areas. If ceiling diffusers are used, it is recommended that full consideration be given to the general ceiling pattern of lights, columns, and outlets as these items will contribute greatly to the appearance of the store.

Grilles can be installed with duct work so that ducts will have the appearance of beams, and become inconspicuous with modern lighting treatments. It is recommended that grilles of the double-deflection type be installed with a volume-control damper behind each grille. With average ceiling heights grilles should be placed on centers of 10 to 15 feet. Return air is not a major problem if an adequate air distributing system is installed.

LOOKING AHEAD

It is believed that future research will place new types and models of air conditioning equipment in the hands of the engineer for incorporation into the design of these systems. The present trend toward high-speed reciprocating compressors is a result of research. Such compressors are more efficient, lighter in weight, smaller in physical dimension. In designing air conditioning either for the modern chain department store, or for any other type of application, the engineer should continually investigate the results of research. Equipment used and designs prepared today may be obsolete within the next 10 to 15 years . . . so it is to every engineer's own interests to keep looking ahead constantly.

In planning an air conditioning system for the modern chain department or variety store, or for any large or small structure serving the public, the factor of safety should obviously receive early consideration.

Today there are many dependable units of equipment available in which "Freon" safe refrigerants are utilized, and the engineer will experience little difficulty in selecting machines that fully meet the specific requirements of each individual job. The use of "Freon" refrigerants in the production of conditioned air, and for refrigeration purposes, provides ample assurance of safe, efficient and economical operation of the equipment.

"Freon" refrigerants are safe . . . nontoxic, nonflammable, nonexplosive, free of moisture and as pure as exacting scientific methods of manufacture can make them. That is why it is always the best policy to recommend equipment designed to use "Freon" safe refrigerants. E. I. du Pont de Nemours & Co. (Inc.), "Kinetic" Chemicals Division, Wilmington 98, Del.



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Owners Vie for Tenants With Latest in Building

MINNEAPOLIS, MINN.—Multiple housing rental operators are commencing to discover that special inducements are becoming increasingly necessary in attracting desirable tenants into their folds. Evidence of the keener competition which prevails in many areas today, is indicated by the offers from management, of such attractions as automatic dishwashers, automatic garbage disposal units, individual apartment heat control, community playgrounds, television outlets, etc. As a result, prospective tenants are selecting their new abodes wisely, shopping with purposeful determination until they find the apartment that offers them the most for their money in the way of comfort and convenience.

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77 BRANCHES FROM COAST TO COAST WITH SUBSIDIARY COMPANIES IN: TORONTO • LONDON • STOCKHOLM • AMSTERDAM • BRUSSELS • ZURICH • MEXICO CITY

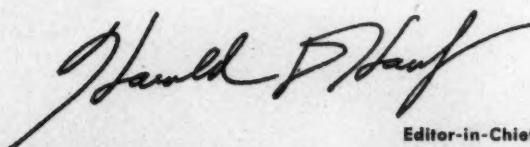
CITY PLANNING AND CIVIL DEFENSE

FOR the first time since the Middle Ages, weapons of war are again a paramount influence in the planning and building of cities. The walls of Carcassonne and Paris were counter-measures for archery, pikemen and catapults, and they imposed definite influences on the pattern of life within the cities. Today urban dispersal appears to be the only fully effective means of minimizing the effects of atomic bombing, but if we are alert to the implications, we can identify this means of defense with measures for making our cities better places in which to work and live. The growing congestion and concentration in urban areas is no more desirable in peace time than in war.

The cold war (which is no longer so very cold) presents two broad possibilities. It may develop into a major conflict within a relatively short period, or it may continue in substantially its present form for many years to come. This uncertainty calls for a two-pronged civil defense program. In every community, the first effort should be aimed at establishing an organization immediately to function in event of disaster. This would embrace measures for control of panic, designation of shelter areas, evacuation, clearing of roads, rescue, fire-fighting, and decontamination of areas which have become contaminated with radioactivity. The second calls for implementing urban dispersal as a defense and war-preventive measure, since reducing the concentration of industrial facilities and population makes atomic bombardment strategically less profitable, and renders the target less tempting.

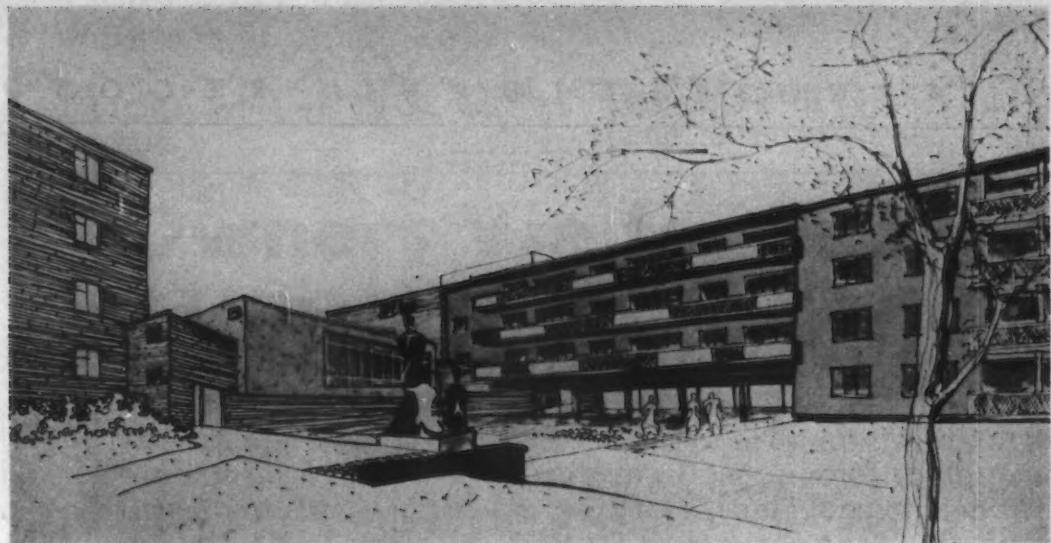
Actual accomplishment of urban dispersal is feasible, as is clearly demonstrated by the construction program under way for the New Towns in Great Britain described in this issue of ARCHITECTURAL RECORD. This factual evidence together with the continuing threat of atomic bombardment presents an opportunity for promoting appreciation of the dispersal concept at all levels of municipal, state and federal planning. Architects and members of all the design professions are in a position to advance acceptance of dispersal planning by serving on civil defense commissions, housing authorities and similar related bodies.

Every slum clearance project, housing development, industrial plant, traffic artery or other public improvement should be planned with a view to the military as well as the civil aspects of dispersal. This will not be difficult, since the basic criteria controlling each approach point so nearly in the same direction.



Editor-in-Chief

BRITAIN



Above, design for apartments in Area 2, Mark Hall North, Harlow New Town (Fry, Drew & Partner, Architects); below, construction progress in this area
Photoflight, Ltd.



N BUILDS HER NEW TOWNS

By Michael Rosenauer, F.R.I.B.A., A.I.A.

In the London region eight New Towns are now in process of development; there may soon be ten. Elsewhere in England, Scotland and Wales six are under way and more are starting. Some are completely new, others are expansions — whatever their nature, in magnitude the British New Towns program far exceeds any recorded attempt at producing a planned living and working environment for man. Furthermore, New Towns, no longer dreams, are actually being built. Such conscious planning for decentralization of congested areas, as we point out elsewhere in this issue, has not merely a social impetus; it is, soberly and ironically, an urgent military consideration.

THE NEED to change undesirable conditions in over-crowded cities has challenged our ingenuity for years. Leaving aside half measures, only two major ideas for preventing further damage from uncontrolled growth are so far discernible: the Green Belt idea, which limits the city sprawl geographically; and the idea of directing decentralization to new, organically balanced satellites. Green Belts were proposed as far away and long ago as Vienna at the turn of the century. It took all the experience of housing, garden cities, and the reorganization made possible by the bombing of London to lead to an effective method of decentralization — the British New

Towns idea. To translate this idea into fact, to make it plausible to the public and to parliamentary parties, required detailed study, substantial publicity (for which conditions were opportune) and considerable work at the legislative and political levels as well as in land planning and architectural circles.

The London County Council published in 1943 Forshaw and Abercrombie's *County of London Plan*. In 1944 this was followed by the *Greater London Plan*.¹ To summarize this unique report, it proposed organizing the territory within a radius of approximately 50 miles in four concentric rings:

1. *The Inner Ring.* With an admissible population of 75 to 100 persons per acre, this area requires decentralization of 415,000 persons.

2. *The Suburban Ring.* Within an approximate radius of 12 miles, the overcrowding of this area could be adjusted within the ring itself. It could be considered static in regard to total population, though not in regard to the regrouping inside it needed to maintain a desired maximum density of 50 persons per acre.

3. *The Green Belt Ring.* Here many communities, old and new, exist; but neither any expansion of existing communities nor any new centers should be permitted.

(Continued on page 104)

¹ The County of London Plan established the fact that the County's population was too dense. The Ministry of Town & Country Planning commissioned Sir Patrick Abercrombie to extend the studies in the Greater London Plan.

THE DEVELOPMENT CORPORATION OF HARLOW NEW TOWN

Chairman, Deputy Chairman and six Members

General Manager

with personal secretarial (5) including Public Relations Officer

Deputy General Manager and Chief Finance Officer

with staff (10) dealing with general administration

Architect Planner, with an Executive Chief Architect assisted by professional and other staff including Clerks of the Works (21)

Chief Engineer, with a Deputy and professional and other staff including Clerks of the Works (26)

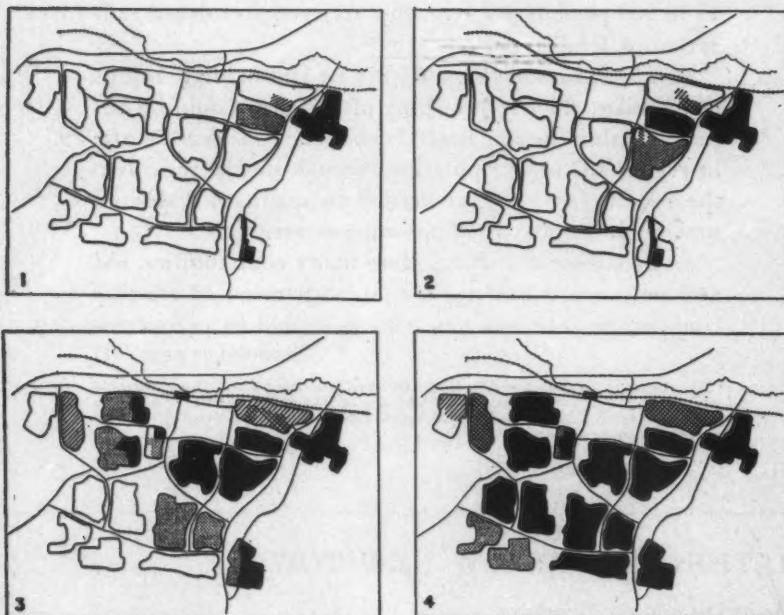
Chief Estates Officer, with professional and other staff including Landscape Manager (9)

Chief Solicitor with professional, other staff (4)

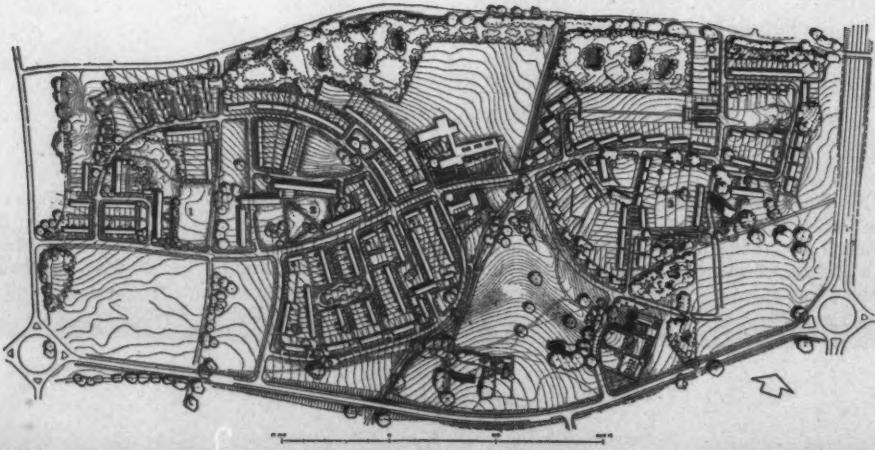
Chief Finance Officer & Deputy General Manager, with professional and other staff (8)



Above, entire Greater London region (County of London solid black) showing existing communities and New Towns. Below, progress plans showing manner in which, in about 20 years, Harlow New Town is to be completed

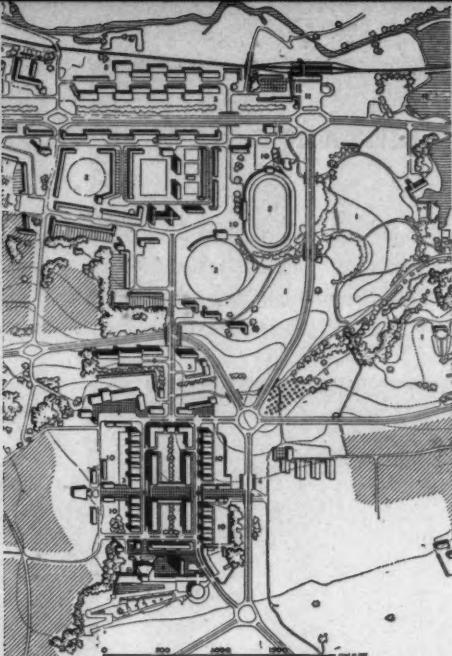


HARLOW NEW TOWN: AN EXAMPLE



Left, plan of Mark Hall North, first residential portion of Harlow New Town to be completed, in which buildings designed by three independent architectural firms are now being erected

Master plan, Harlow New Town. Diagonally lined areas are for industry, where the Corporation is now building 11 factories; and four industrialists are developing sites. Area 2 is Mark Hall



Photoflight, Ltd.



In master plan, left, residential areas 1 through 13, separated by green belts and major roads, are clustered around schools and commercial facilities. Air view immediately above shows site of Town Center; plan above that, proposed Civic Center, commercial structures, sports and cultural facilities, parks, etc. for this site. Below, left, "Terlings," existing mansion housing the Development Corporation, to be preserved; right, typical thatched cottage, Old Harlow



BRITAIN'S NEW TOWNS

Right, air view of Mark Hall section, Harlow New Town; circle, upper left, indicates site of 10-story apartment shown below, left, in model; right, as of October 1950 (Frederick Gibberd, Architect). Lower right, three-story apartments, Mark Hall North



Photoflight Ltd. Photo



Central Press Photo from Combine

4. The Outer Country Ring. The *Greater London Plan* recommends this ring, with an outer radius averaging 50 miles, as the chief reception area for overcrowded central London. For this Outer Country Ring, predominantly rural, the New Towns are proposed.

Organized Decentralization

People cannot be ordered to leave their places of residence, but they can be induced to move by offering them better surroundings together with prospects for work close by. Realization of this led to the idea of combining new residential communities and new industrial developments. Dormitory suburbs, a half measure, cause commuting traffic whose ensuing problems defeat the actual aim of decentralization. Daily travel to and from work has reached the limit of transport capacity and has taxed to the limit those who do it.

People will be reluctant to move if moving means complete segregation from relatives and friends. Therefore the New Towns are at a minimum distance from London; as close as the Green Belt permits. When the New Towns are completed and their 60,000 to 80,000 populations are fully provided for, educational, cultural and entertainment places will exist in each New Town itself. But in the first years of development, the possibility of reaching facilities of the parent city without a long journey will strongly affect the decision of city residents to move.

The pressing need for adequate accommodations for the overflow from central London speeded the New Towns Act, which the then Minister of Town & Country Planning, Lewis Silkin (now Lord Silkin), successfully carried to Parliament in 1946, politically backed by an

all-party vote. Eight New Towns are now in process of creation in the Outer Country Ring of London, most of them beyond the planning stage.

ORGANIZATION

In order to build a New Town, the Minister of Town & Country Planning appoints, after consultation with existing local authorities in the designated area and its environs, a Development Corporation with a Chairman and a Deputy Chairman. The Corporation, reconstituted every two or three years, consists of a few members selected by the Minister on the basis of special qualifications. They are paid — part-time — and the Corporation's Board functions in a manner similar to any authoritative committee, but delegates much authority to a General Manager (see organization chart).

Distribution of Powers

The New Towns Act sets forth the aims and powers of a Development Corporation as follows: "The objects of a Development Corporation established for purposes of a new town shall be to secure the laying out and development of the new town in accordance with the provisions of this Act and for that purpose every such Corporation shall have the power to acquire, hold, manage and dispose of land and other property, to carry out building and other operations, to provide water, electricity, gas, sewerage and other services, to carry on any business or undertaking in or for the purposes of the new town; and generally to do anything necessary or expedient for the purposes of the new town or for purposes incidental thereto: provided that, subject to the provisions of this Act with respect to the making of

Left to right, top row: Lord Silkin, Minister of Town & Country Planning until 1950; Rt. Hon. Mr. Dalton, present Minister; Dame Evelyn Sharp, D.B.E., Deputy Sec'y, MOTCP; Sir Ernest Gowers, G.B.E., K.C.B., first Chairman, Harlow Dev. Corp.; R. R. Costain, C.B.E., F.I.O.B., present Chairman. Second row: W. Eric Adams, O.B.E., Gen. Mgr., Harlow New Town; R. T. Kennedy, Chief Planning Officer, MOTCP; Frederick Gibberd, F.R.I.B.A., A.M.P.T.I., Architect Planner, Harlow; Maxwell Fry, F.R.I.B.A., and his partner, Jane Drew, F.R.I.B.A., architects of one portion of Mark Hall North. Bottom, Design Unit (Harlow Dev. Corp.), architects of another portion; B. G. K. Allsop, J.P., M.C., F.R.I.C.S., F.A.I., realtor and member, Harlow Dev. Corp.; Oswald E. Parratt, F.R.I.C.S., Quantity Surveyor, Harlow; F.R.S. Yorke, A.R.I.B.A., one of the architects of Mark Hall South

Central Press Photo from Combine



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advances to Development Corporations, a Development Corporation shall not have power to borrow money."

A Corporation cannot incur capital expenditure without the approval of the Minister and, through him, the Treasury. The extent to which this provision is employed to exercise detailed control rests in large measure with the Minister. For certain routine items of capital expenditure, he may give general authorization in his approval of the Corporation's annual budget; for others he may wish to exercise detailed control. Once formulated, the Corporation's proposals need the consent of the Town Planning Authority. Local authorities concerned have the right to consult with the Minister before he approves, with or without modification, the Corporation's proposals.

The opportunity of producing tangible results of such magnitude has inspired all those connected with the building of the New Towns, from draftsman to general manager of the Development Corporation and civil servants in the Ministry, to hard, persevering work.² There does not appear to be any serious error in organization, although continuing experience may disclose the advisability of making minor adjustments in allocation of powers or in other matters. Once capital outlay is started, it is in the Government's interest that the revenue-producing phase be reached without delay.

HARLOW NEW TOWN: AN EXAMPLE

The location of Harlow New Town is one of those suggested by Sir Patrick Abercrombie in the *Greater London*

Plan. It lies on high ground, above the River Stort in rural Essex, on the main railroad and highway between London and Cambridge. Abercrombie based his choice on a number of promising features, of which one is the short distance to the overcrowded East End industrial areas of London. The land is pleasantly undulating and, in part, of very good farming quality, with two parks at Parndon Hall and Mark Hall as attractive recreational features. Not far away is Epping Forest, one of the most beautiful woodlands in the Green Belt zone.

The Master Plan

The master plan of Harlow was developed by Frederick Gibberd as Chief Architect-Planner, in close cooperation with the Development Corporation and its General Manager, W. Eric Adams. Sir Ernest Gowers, first Chairman of Harlow Development Corporation, regarded the master plan as not being "a plan of the town" but the "plan of the framework to which it is proposed the town should conform" leaving room for additional ideas and a wide variety of treatment. The Corporation submitted the plan to the Ministry of Town & Country Planning in July, 1948; it was approved by Lord Silkin in March, 1949 — the first New Town plan to obtain approval.

Mr. Gibberd describes his primary aims as having been "to organize the town in distinct areas for work, home and play; to connect these areas by a road pattern in which traffic can flow easily; and to surround the whole area by a well-defined agricultural belt." He was concerned to capture the characteristics of an historically grown town, those qualities of urbanity which, in his opinion, arise from the architecture of the buildings

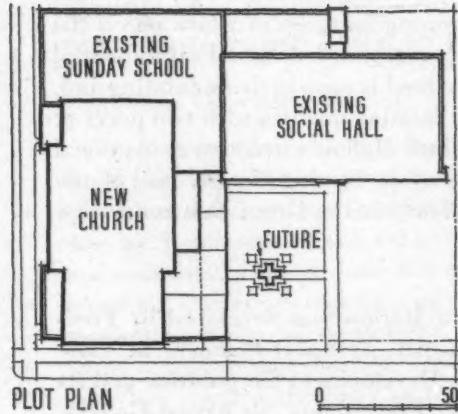
(Continued on page 190)

² As in America, there are in England those who continue to deprecate planning even as it approaches realization; and advocates of expedient housing solutions who do not appear to comprehend that new housing will exist in the New Towns. — Editor



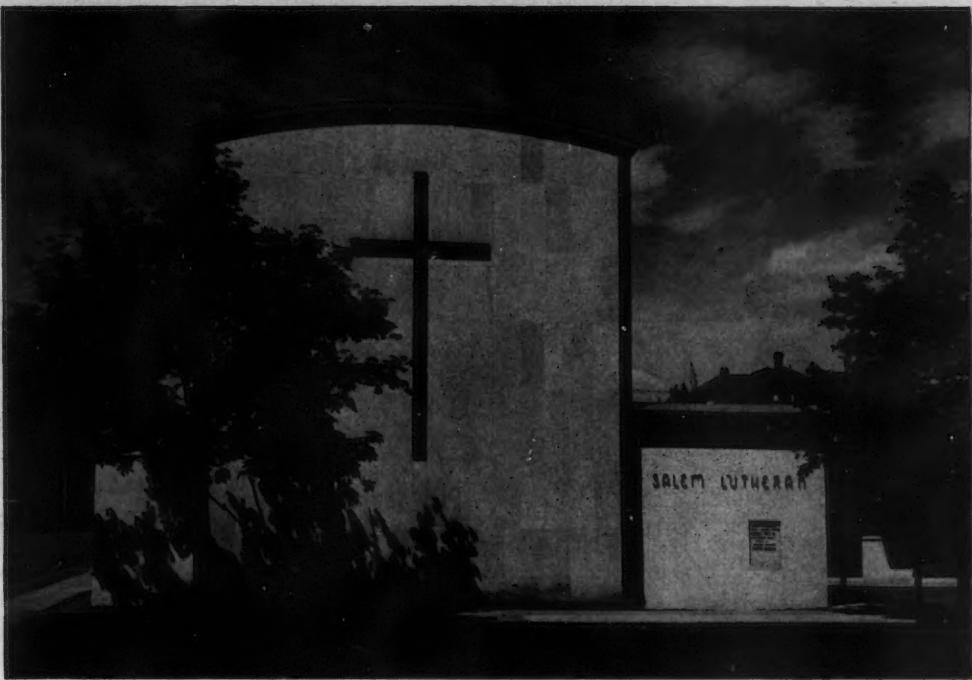
SALEM LUTHERAN CHURCH, SPOKANE, WASH.

E. J. Peterson, Architect



ORIGINALLY built in 1899, Salem Church was destroyed by fire in 1949 at the time that a new social hall (labeled "existing" on the accompanying plot plan) was being constructed. The social hall and existing Sunday School classrooms escaped damage. The new building had to be designed not only to meet the congregation's requirements; it also had to harmonize with the remaining structures and, if possible, provide improved facilities on the limited (120 by 150 ft) site. Below, at left, is shown the accepted design, of which everything but the chime tower ("future" on plot plan) has been completed. In the new scheme, a larger nave was provided; Sunday School rooms were added in the Church basement; the entrance was relocated closer to the center of all activities.



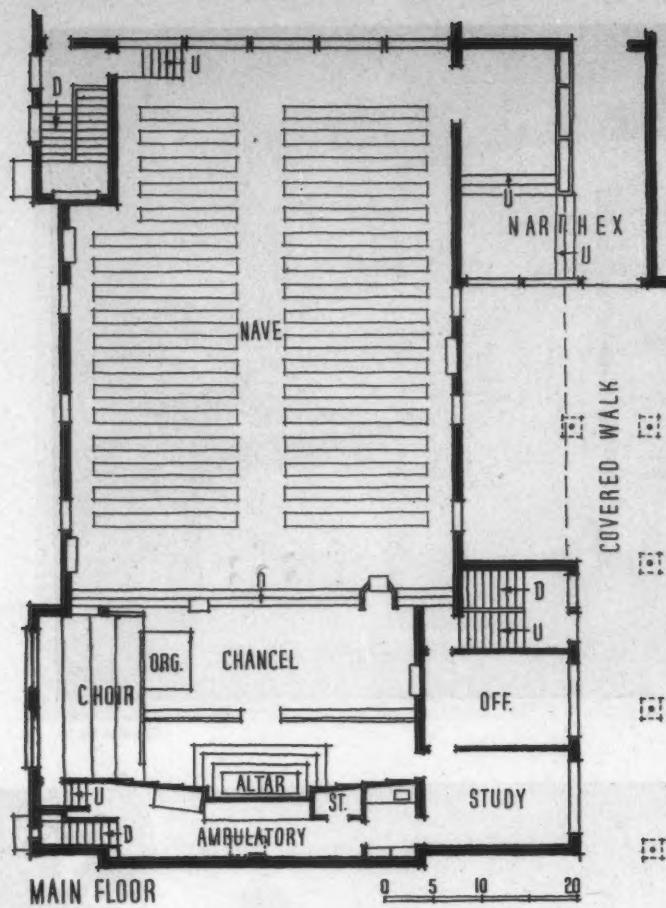


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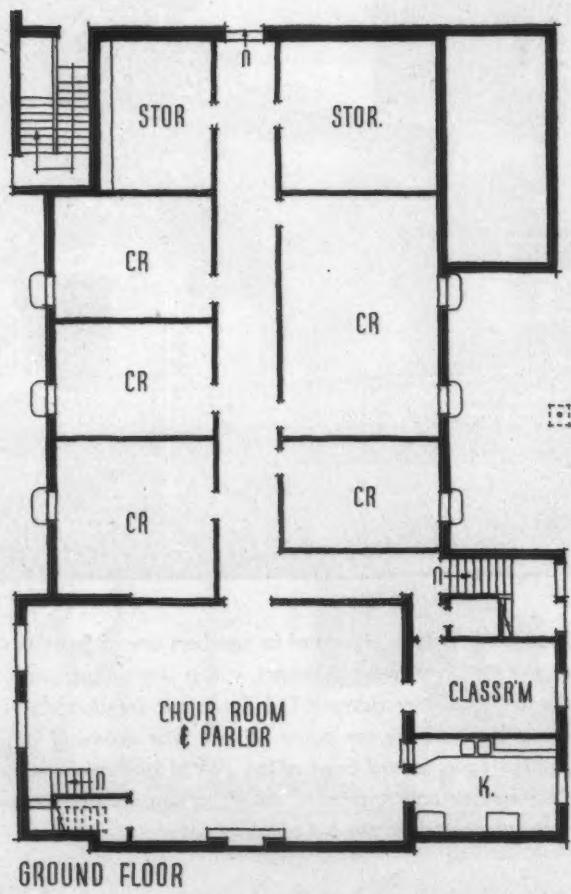
Salem Church is the oldest Lutheran congregation in Spokane. Many of its members are of Swedish extraction; perhaps in their racial origin lies the reason why the members, voting down traditional Gothic architecture, voiced a preference for contemporary design. The formalistic freedom thus granted greatly simplified the architect's work; for instance, the entire scheme was improved by building the new chancel at the South end of the nave (it had been at the North) and relocating the entrance. To emphasize the now secluded narthex and to provide shelter, a covered entrance walk is provided. Stained glass windows were salvaged from the old building.



SALEM LUTHERAN CHURCH



Key to problem was reversing the nave. Chancel, formerly at North end (top of plan) was placed at South, close to sidewalk. From new narthex church is directly accessible up steps; down ramp is entrance to Social Hall and Sunday School rooms (see photo, right), under altar painting salvaged from old church



Behind the chancel are an ambulatory and, above that, the organ loft. Clerestory walls at chancel have glass block inserts, ceiling has recessed down lights and accent spots, all coordinated in design to heighten the relatively simple Lutheran ritual



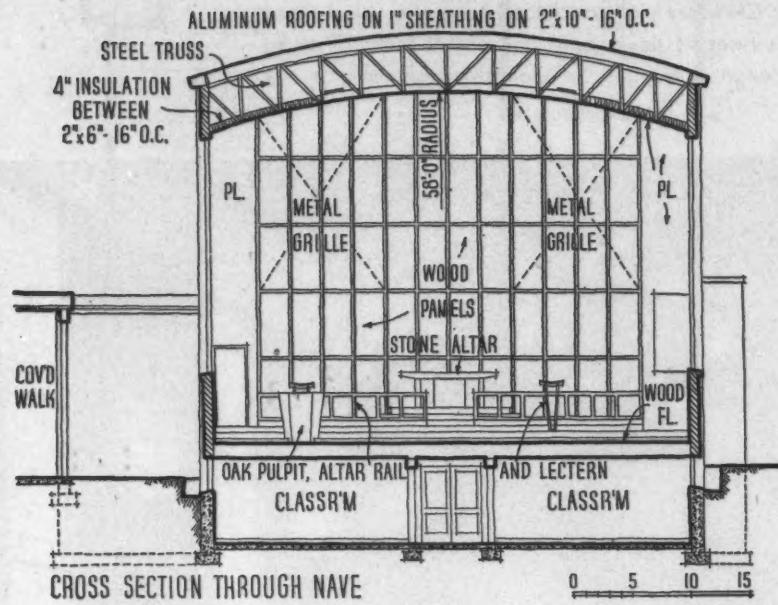
Roscoe Laing Photos

In Design Salem Church is quite appropriate for a Lutheran congregation. It makes no pretenses; it is friendly despite its unconventional plan and interior color scheme, in which lavender walls and ceiling are complemented by bleached oak pews and green carpeting. Its architectural significance cannot be overlooked. Many a congregation or Board of Deacons has voted for one of the traditional styles of architecture, heedless of what such an emotional decision may do to the functioning of the building in relation to ritual, to the congregation's particular requirements, to such temporal matters as the practical relationships between the parts of the church compound; and with little reasoned thought about architectural expression of religious faith.

By 1948, Salem Lutheran Church had outgrown its modest beginnings. Its congregation had grown to 600, which necessitated two crowded services per Sunday.

Its Sunday School was overcrowded; the basement Social Room couldn't begin to handle crowds at increasingly popular Smorgasbord dinners, where as many as 1500 had to be served in one evening. So it was decided to build a new Social Room and, after that, to remodel the Church basement to provide more Sunday School rooms. The nave was then to be extended to the North.

But during the Social Hall's construction the Church proper burned, and the edifice presented here, a much better building than the makeshift extension would have provided, was then designed and built. The Church now functions well both for Sunday services and at other times for large social gatherings. There is ample Sunday School space; the larger nave can be extended still further by opening sliding panels in its North wall, thus converting adjacent Sunday School rooms into a balcony for overflow seating; and all elements can be reached easily from the centrally located entrance.

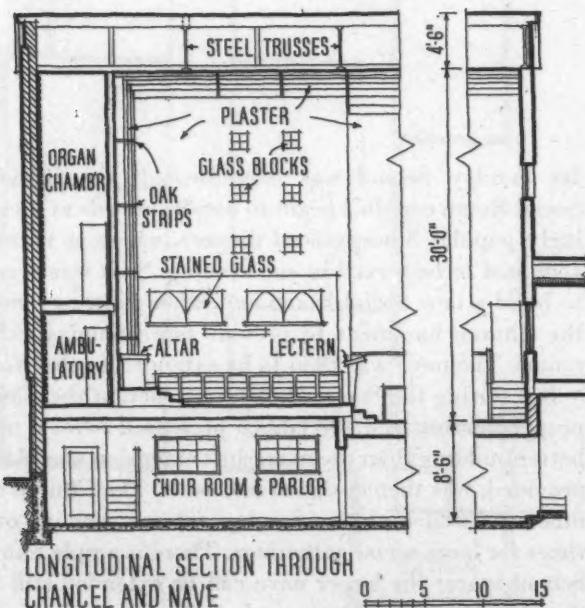


SALEM LUTHERAN CHURCH

Christian Photo



Construction is quite conventional: concrete foundations, 12-in. brick bearing walls, steel roof trusses supporting wood-framed construction and embossed aluminum surfacing. South wall of nave has Indiana limestone facing; elsewhere, exterior is dark red brick with dark blue trim. Inside, nave has oak floor on wood framing; basement, asphalt tile on concrete; narthex, stone



Behind two bronze grills in chancel (above) are organ pipe chambers. Woodwork throughout nave is bleached oak, with ceiling and side walls painted light lavender, chancel walls dark lavender, green carpeting on floor. Upper right photo shows choir stalls with, behind them, leaded glass windows from the old church; lectern and black marble baptismal font are new. Altar (right), also from old church, is likewise black marble. Far right, new pulpit



Roscoe Laing Photos





L. D. Jones Photos



Devotional heart of the Home is the chapel with its adjacent candle room (above). Chapel seats 100. Continuous casements are glazed with obscure glass and provide for installation of stained glass panels on inside at later date



HOME FOR THE JEWISH AGED

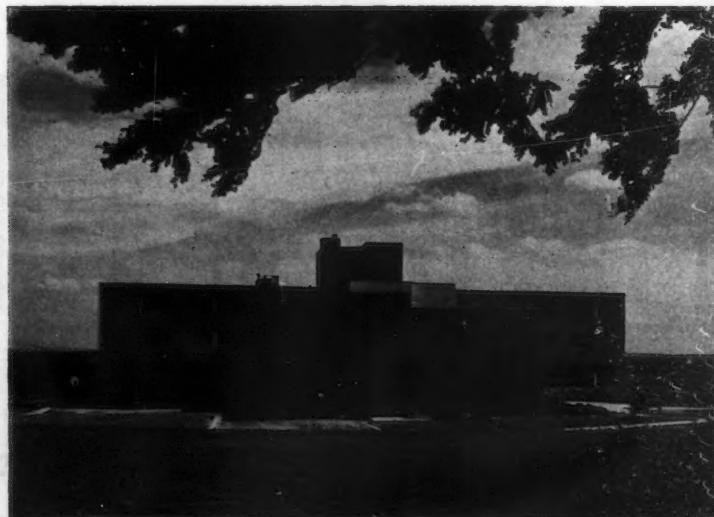
IN DESIGNING this building the architects had one chief thought in mind: provision of complete institutional facilities in pleasant, informal surroundings with the least possible institutional atmosphere.

All the basic institutional facilities — sleeping, eating, recreational, medical and religious — have been provided, but the atmosphere is definitely that of a residence club. The building accommodates 76 regular residents in double rooms, attractively furnished and each with its own toilet. The dining room is airy and spacious, furnished with tables for four; two separate kitchens provide for religious diet requirements. Lounge and recreational areas are generous: in addition to the main lounge on the ground floor there is a lounge on each of the other floors, plus balconies, roof deck, occupational therapy shops, and library. An infirmary wing accommodates eight patients in four double rooms, plus laboratories, examination rooms and physical therapy rooms. A chapel and adjoining candle room provide for the religious needs of the Home.

The building is one unit of the proposed Medical Center on the grounds of Menorah Hospital. It has been planned for expansion both horizontally and vertically — with horizontal extensions of both northeast and northwest wings, and addition of two floors.

Kansas City, Missouri

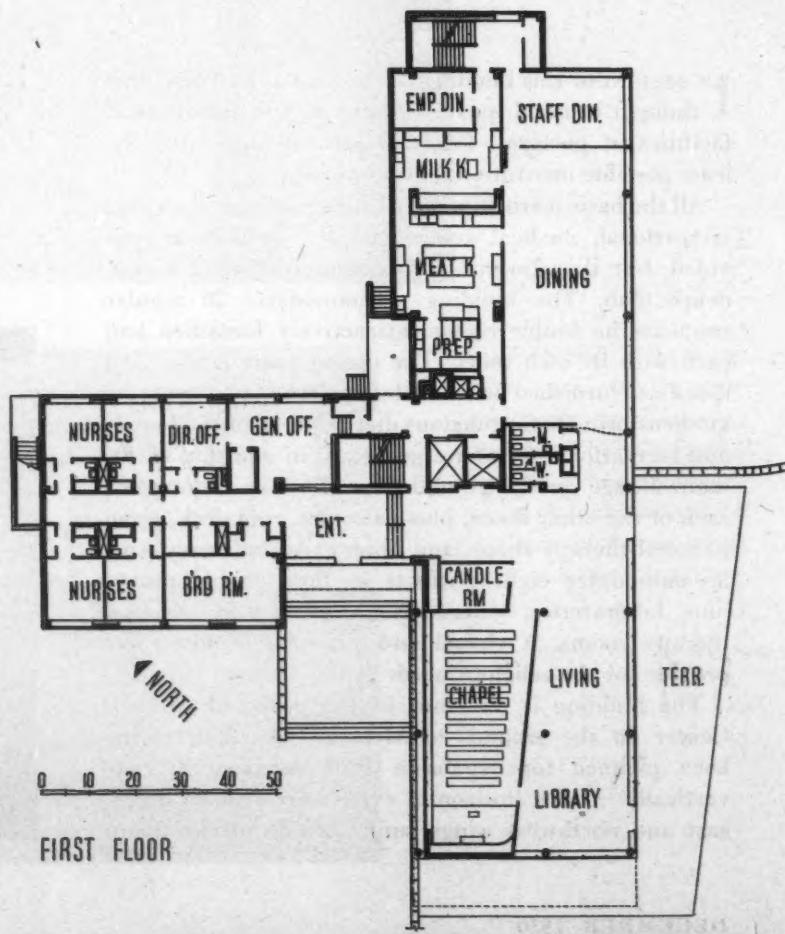
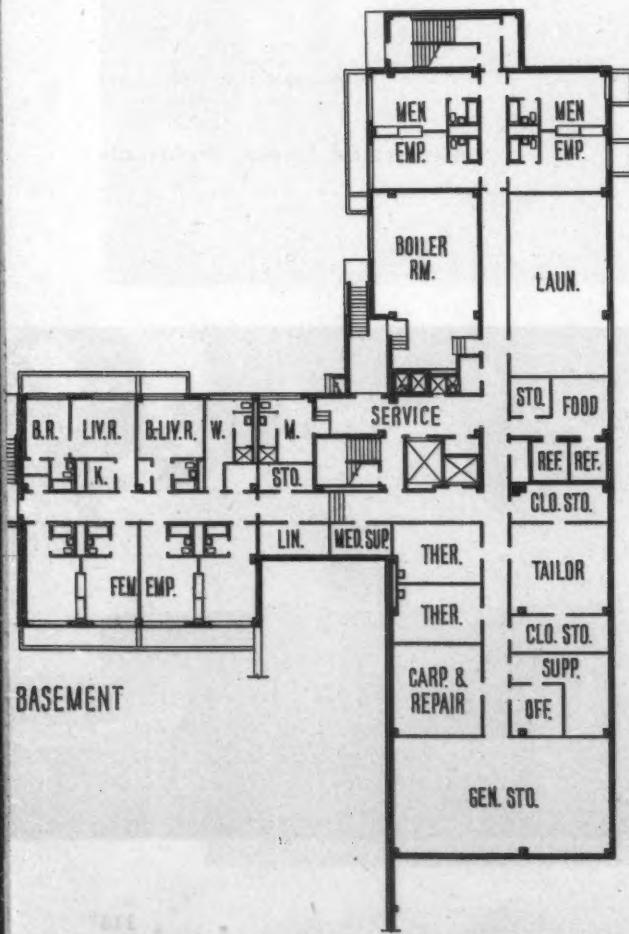
Kivett and Myers, Architects

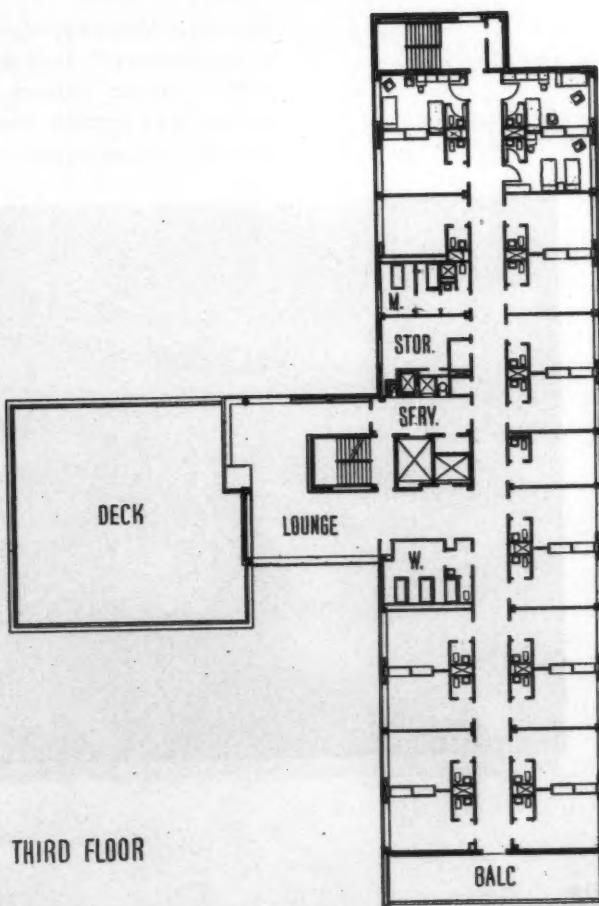
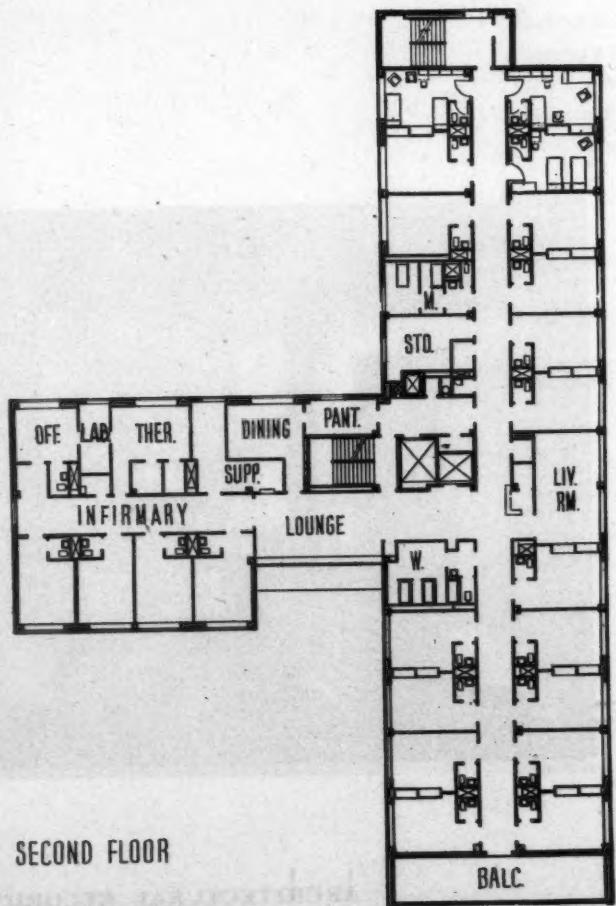


L. D. Jones Photos



Exterior is brick, backed by masonry blocks on a reinforced concrete frame. Main entrance (above) leads directly to information desk at front of open general office. Main lounge (right) can be extended for special functions by opening up of main and staff dining rooms. Lobby (opposite page) has walnut plywood walls, linoleum floors, acoustic tile ceilings







Dining room (right) is light and airy, attractively furnished. Folding wood partition separates staff dining area from rest of room. Tiled lavatory for ritualistic washing of hands before meals (above) is conveniently placed between main lounge and dining room

L. D. Jones Photos



Each of two upper floors has its own lounge. That on third floor (below) has direct access to deck



Bedrooms (opposite page) are double, have walls covered with washable fabric. Furnishings include built-in wardrobe, movable dressers, writing desks and lounge chairs. Infirmary wing (below) is well-equipped for examination and treatment



ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 169

MEDICAL
OFFICE
BUILDINGS

Open the fold for
equipment legend
for floor plans



EQUIPMENT LEGEND

1. Lavatory with mirror over
2. Foot lever waste can
3. Examining light
4. Examining table
5. Waste paper basket
6. Instrument & supply cabinet
7. Straight chair
8. Adjustable stool
9. Easy chair
10. Bookcase
11. Executive desk & chair
12. Secretary's desk & chair
13. Filing cabinets (lettersize)
14. Floor lamp
15. Occasional table
16. Clinical scale
17. Hookstrip
18. Umbrella stand
19. Sectional settee
20. Counter with cabinets below (open below where stool, item 8 is shown)
21. Sink with gooseneck spout
22. Wall cabinets
23. Pressure sterilizer, 8" x 16"
24. Refrigerator
25. Basal metabolism apparatus
26. Couch (examination—treatment—recovery)
27. Mirror
28. Electrocardiograph
29. Fluoroscope
30. Film illuminator
31. Folding screen
32. Charting desk, counter height
33. Electrosurgical unit
34. Table lamp
35. Water closet
36. Wallhung shelf
37. Specimen passbox
38. Dressing table and mirror
39. Portable operating light
40. Mayo instrument table
41. Built-in counter
42. Pressure sterilizer, 10" x 20"
43. Instrument sterilizer, 4" x 6" x 16"
44. Operating table
45. Baby scale
46. Toy cabinet
47. Table and chairs (child size)
48. Baby examining table
49. Specialist's cabinet, with suction pump & compressed air
50. Specialist's chair
51. Audiometer
52. Cuspidor with service connections
53. Accessory table
54. Woods light
55. Couch (psychiatrist)
56. Superficial X-ray therapy unit
57. X-ray control unit
58. Leaded glass view window
59. Treatment and examination chair-table
60. Ultra-violet light
61. Reading light
62. Eye operating light
63. Lens case on cabinet
64. Greens' refractor
65. Vertometer
66. Binocular ophthalmoscope
67. Chin rest
68. Slit lamp
69. Keratometer
70. Vision chart
71. Tangent screen
72. Perimeter
73. Troposcopé or synoptophore
74. Arm chair
75. Storage cabinet (4'6" high)
76. Writing table & chair
77. Urological X-ray table
78. Irrigator unit
79. Film washing tank with film illuminator above
80. Movable lead-lined screen
81. Water sterilizer
82. Chemical instrument sterilizer
83. 3-compartment developing tank, timer and safe light above
84. Loading counter with film storage bin below
85. Loading counter, cabinets below, safe light and film rack above
86. Film storage bin
87. Film dryer
88. Cassette pass box
89. Towel bar
90. Stereoscope
91. Proctoscopic examining table
92. Wall hung bookcase
93. Radiographic & fluorescent combination unit
94. Cassette changer
95. Barium sink in counter, cabinet below and recessed cabinet above
96. X-ray therapy unit
97. Lead-lined door (light proof)
98. Lead lining
99. Seat
100. Film filing cabinets
101. Pressure sterilizer, 16" x 24"
102. Hot air sterilizer, 18" x 14" x 14"
103. Drainboard with peg-board above
104. Incubator, 12" x 15" x 10½"
105. Serological water bath (6 rack)
106. Paraffin oven, 12" x 12" x 10"
107. Laboratory table
108. Galvanic unit
109. Infra red lamp
110. Plaster cart
111. Wheel chair
112. Whirlpool bath
113. Paraffin bath
114. Treatment table
115. Diathermy short wave unit
116. Stall bars
117. Shoulder wheel
118. Lavatory with plaster trap
119. Instrument and supply cabinet with suction apparatus
120. Pulley weights
121. Light-proof door



PHYSICIANS' OFFICES

*Prepared under the general direction of JOHN W. CRONIN,
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States Public Health Service Federal Security Agency*

PHYSICIANS' OFFICES have been rather a blind spot in the literature of building planning. The Public Health Service has had continual requests for up-to-date information on arrangement, layout and equipment of offices for various medical specialties, as have architectural publications. Accordingly Marshall Shaffer assigned to his staff of architects in the U. S. Public Health Service the task of studying doctors' offices and preparing this series of check-list plans. The following plans and text were prepared by Peter Pfisterer of that staff.

Exact requirements were ascertained through consultations with practicing physicians, their assistants and nurses. These were tried out in sketch form in further contacts and correspondence, and finally are here released in finished form. Advice and criticism of preliminary schemes were obtained from The American Medical Association, The Medical Society of the District of Columbia, the staff of Public Health Service dispensaries and health units, and the manufacturers and distributors of surgical and medical equipment.

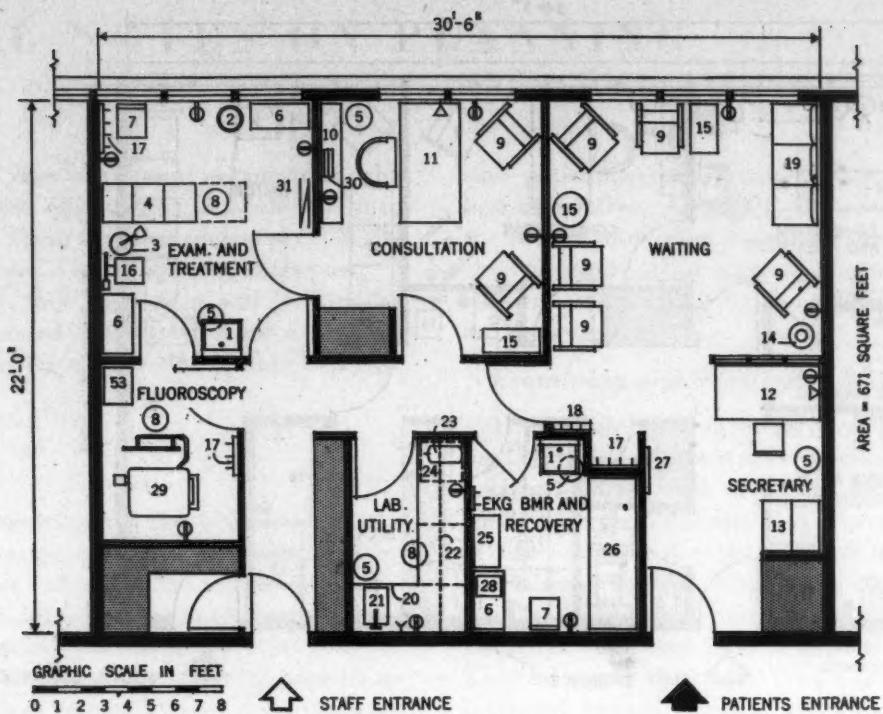
It is obviously impossible to propose dogmatic standards which will be universally applicable. The purpose of these plans is merely to demonstrate graphically the fundamental needs for space and equipment, possible traffic solutions, and suggested relation of rooms and areas. The assembled information is therefore to be regarded primarily as guide material or reference check-list, and will have to be adapted in each instance to individual conditions, personal taste, work habits and type of practice.

The material illustrates specific requirements of 13 different specialties of medical practice. In order to provide a uniform basis for comparison, it was necessary to bring all suggested suites to a common denominator. Therefore these assumptions are made:

1. The suites are intended as one-man offices, that is, each layout is designed for use by only one practicing physician with the help of a nurse and a secretary (or a combination of both), and other professional assistants as the case may be.
2. Each suite is assumed to be complete in itself and should contain all necessary features for the particular specialty involved. The only facilities shared by all occupants consist of building entrance and lobby, stairs and elevators, corridors, and centrally located public toilets.
3. The aim is to provide accommodations which are neither luxurious nor absolute minimum, but rather incorporate all essentials comfortably with an eye on maximum efficiency and economy in floor area.
4. For the purpose of integrating all suites into a professional office building, a standard bay width of 22 ft has been assumed. The layouts have therefore the shape of rectangles with constant width and varying lengths, defined by two end partitions 22 ft long (left and right), a corridor wall (bottom) and an exterior window wall (top). This system makes it possible to arrange the various offices in rows along one or both sides of a common corridor.

An equipment legend for all plans will be found on the inside of the flap of this page. When opened out the legend will appear conveniently beside plans on all succeeding pages.

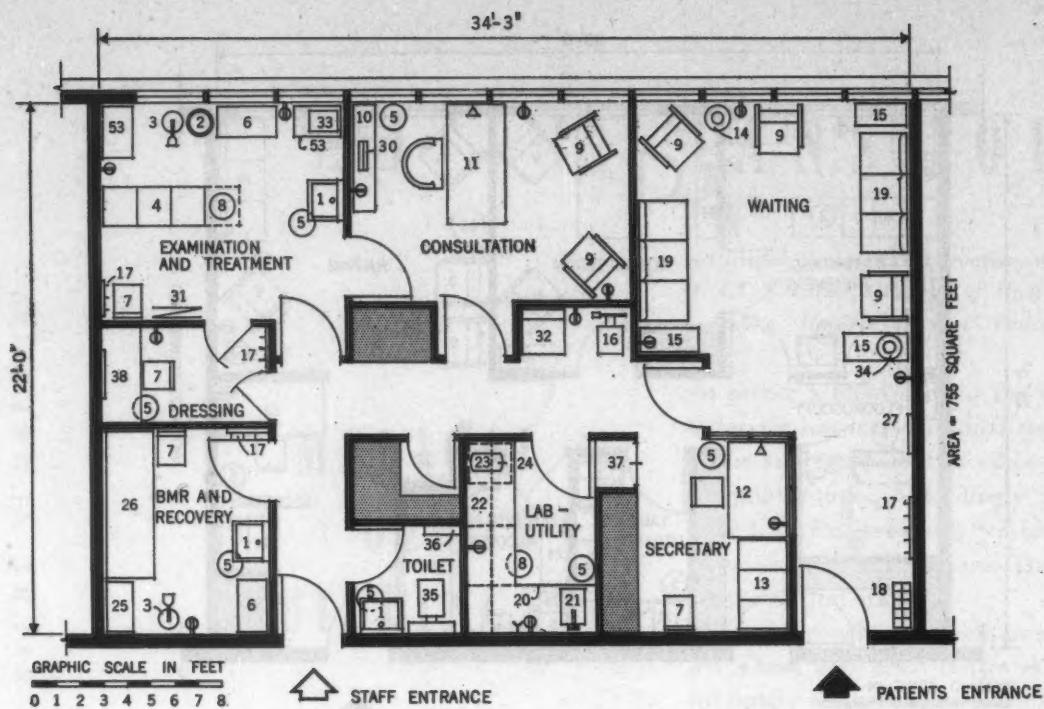
Previously published in pamphlet form by the American Surgical Trade Association



GENERAL PRACTICE

THE schematic layout illustrated here has been tailored roughly to what might be termed the basic needs of the average physician who concentrates primarily on internal medicine. However, by incorporating but slight modifications and certain substitutions of equipment, the design of this suite may well be adaptable to the requirements of the general practitioner or of physicians specializing in different medical branches such as glandular, circulatory, nutritional diseases, etc. Due to the fact that office therapy is ordinarily limited to comparatively simple procedures, the main emphasis is placed on facilities for diagnostic examinations. The extent and completeness of these vary, but few physicians in this group can do without a fluoroscope, B.M.R., and E.K.G. equipment and at least a small routine laboratory. Because fluoroscopic examinations have to be performed in complete darkness, it is best to provide a separate inside room, eliminating the inconvenience of light-proofing and darkening the examining room each time the fluoroscope is used. It should, however, be immediately adjacent to and communicating with the examining room, so that it is accessible to partially clothed patients.

Inasmuch as the basal metabolism tests are usually performed by the nurse in the early part of the morning, it would be wise to design the B.M.R. room also for other functions during regular office hours. For example, it may be used for electrocardiograms, diathermy, injections, etc., and for a variety of relatively simple examinations whenever the main examining room is occupied. Also the laboratory may frequently become a multi-purpose room. In the absence of a utility room or space, it could incorporate some utility equipment, and besides the customary laboratory facilities (sink, Bunsen burner, microscope, etc.), it may contain provisions for developing E.K.G.'s; a refrigerator for vaccines, and the like. In case a toilet room within the suite is considered necessary, the storage closet to the left of the staff entrance can easily be converted for that purpose.



OBSTETRICS AND GYNECOLOGY

ALTHOUGH these two specialties are often practiced separately, they have been grouped together for the purpose of this study because the physical requirements appear to be almost identical for both. Perhaps the least controversial aspect on the list of design elements for this suite is the almost unanimous demand for a comfortable dressing room, a toilet and a multi-purpose recovery room. There seems to be little doubt that at least one dressing room off the examining room (with or without direct access from corridor), containing dressing table, mirror, chair and robe hooks, represents a good investment. The toilet room within the office limits is in this case a necessity from a medical point of view. Similarly as in other suites, the recovery room is not only needed for recuperation but also for injections, anesthesia tests, B.M.R.'s, etc. It may be of interest to mention that the planner can spare the patient some embarrassment by such small details as a convenient provision for the unobtrusive depositing of urine specimens on a shelf or cabinet between secretary's office and laboratory-utility room. These two spaces, together with the scale and charting desk recess, form the nucleus of the work area, where the secretary or nurse identifies the patient on her way to the "inner sanctum," receives her specimen, prepares her records and records her weight. As illustrated by the plan, the design and location of this work area allows the secretary to maintain contact with entrance and waiting room, without loss of privacy on either side, even when occupied with a patient as described above.

GENERAL NOTES ON PLANNING

FROM the point of view of physical organization, the entity of a complete office suite can be divided into four main elements. These divisions consist of (1) Waiting Area, (2) Patients' Consultation — Examining — Treatment Areas, (3) Staff Work Area, and (4) Circulation. All are interrelated and should form a well integrated unit without infringing on each other's specific functions.

WAITING AREA

The primary requirement for the waiting room is a comfortable and relaxing atmosphere, undisturbed by circulation of patients and nurses, yet in close proximity to the main entrance and secretary's headquarters. Good supervision and control from this point is essential for giving directions to arriving and departing patients as well as for calling them to consultation and examining areas. If space permits, an outside location of the waiting room is of course preferred, as it presents better opportunities for achieving an informal, pleasant and inviting space arrangement. Concerning size and seating capacity, no hard and fast rules can be established, since extent of practice and appointment systems vary considerably with each individual physician. Needless to say, in addition to the familiar easy chairs and magazine tables, some provision should be made in or near each waiting room for hanging coats, hats, umbrellas, including a wall mirror near the entrance.

CONSULTATION — EXAMINING — TREATMENT AREAS

This section should form a well related series of rooms, each affording complete privacy, but readily accessible by physician and assistants passing from one to another. In some cases, communicating doors between adjoining rooms are indicated to facilitate circulation. This arrangement has, however, the disadvantage of disturbing privacy to some extent and of reducing wall and floor space usable for equipment. In all plans these communicating doors are therefore optional and can be either added or eliminated.

Consultation Room

With the possible exception of the dermatologist and the ophthalmologist, who usually combine the functions of consultation and examination in one room, every physician needs a separate private office. Although this room does not have to be very large in most cases, it should be attractively decorated and furnished, for psychological reasons, and it must afford complete privacy for conversations and interviews with patients and other callers. Standard furniture includes an office desk for personal belongings, a bookcase for professional reference books, and at least two or three comfortable chairs,

since patients frequently appear with other family members or relatives. Generally, the preferred location for the consultation office is near the waiting room and in close proximity to the secretary's office, for the convenience of staff and patients who often complete their visit in this area alone.

Examining and Treatment Rooms

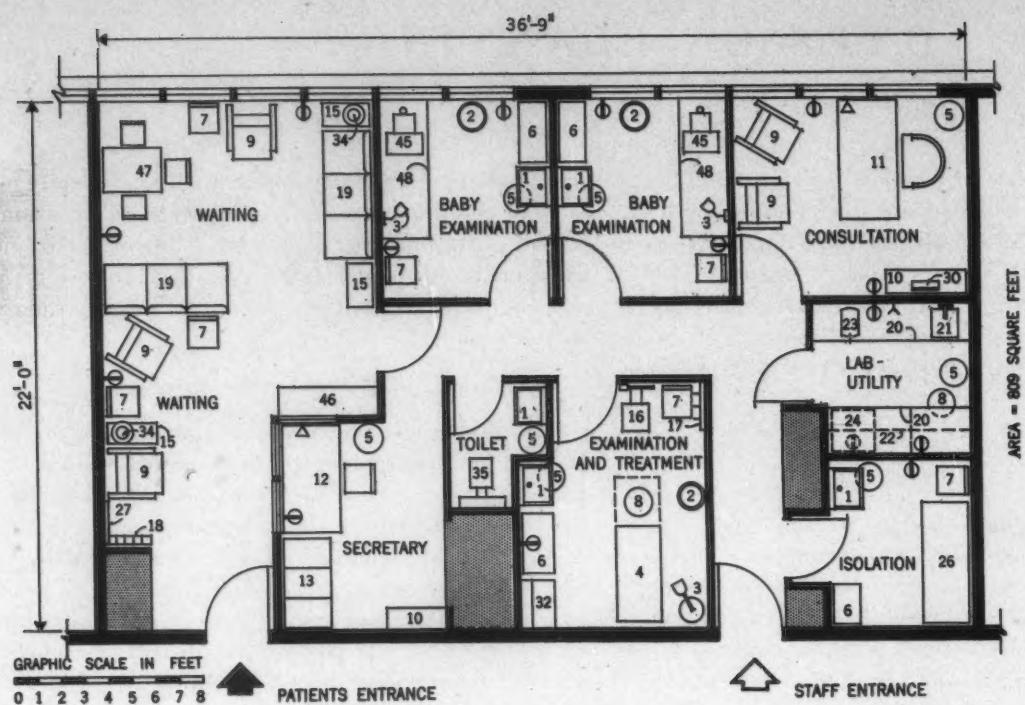
The number, size and layout of rooms under this heading and their equipment is determined by the volume of patients, by the type of service rendered and by the specialty of the physician. As a general rule, a minimum of two rooms, preferably designed for interchangeable use, is recommended. Although it is possible to practice in a suite containing only one examination-treatment room, the additional expense in rent and equipment for a second room will be more than compensated for by the increased income resulting from caring for a greater number of patients due to a substantial saving in time. While the physician is examining a patient in one room, another patient can undress and be prepared for examination or treatment by the nurse in the second room. In some instances treatments may be administered by an assistant at the same time the physician is occupied with a patient in another room.

Recovery Rooms

These rooms, where indicated, are designed to serve several purposes to justify their inclusion — for recuperation after local anesthesia or painful examination, for isolation, for specimen collecting, for injections, BMR's, diathermy and other minor but time consuming procedures often handled by a nurse; as an auxiliary examining room when other rooms are occupied. Many physicians feel that every office suite should be provided with one such multi-purpose room containing a couch or bed.

Dressing Facilities

Present controversy regarding dressing facilities (dressing rooms, cubicles, curtains, screens, etc.) seems to preclude an ideal standard solution. The majority of the interviewed physicians (except obstetricians and gynecologists) were of the opinion that patients could dress and undress in the examining room proper with only a chair, a folding screen and some clothes hooks provided. This method admittedly ties up the examining room longer than necessary for the examination. On the other hand, a dressing room or cubicle is no help in this respect either unless it has, also, a direct door to the corridor and is used alternately only by every second patient. However, such a dressing room with two doors presents rather obvious privacy and door locking problems. Moreover, some patients are hesitant to use any type of enclosed dressing space because they prefer not



PEDIATRICS

It seems that the pediatricians are divided into two main schools of thought as far as the method of examining babies is concerned. The proponents of the "cubicle school" advocate small open stalls containing only an examining counter with scale and a supply cabinet, whereas the extremists of the opposition insist on full-fledged examining rooms which, in addition, embody all the functions of the consultation room. Both sides have valid arguments in support of their theories, and no comparative merit evaluation is intended here. On the contrary, an attempt has been made to compromise between the two factions by combining certain features of both. Since babies usually constitute the bulk of the patient load, the cubicle idea has been adopted in a modified form. Two relatively small identical examining rooms are provided, which are large enough to accommodate, besides the specified items, a washbasin and a chair for the mother during the examination of her child. For older children a completely equipped examining and treatment room with small writing desk is shown to illustrate the principle of this combination. A separate consultation office, permitting a quiet interview with parents undisturbed by crying babies, is located as far away as possible from the noisy waiting room. The arrangement of this waiting area is equally the subject of different opinions. While it seems advantageous to divide it into sections for various age groups with some entertainment facilities suitable to each, many pediatricians feel that caution should be exercised not to turn the waiting space into a rumpus room. Although it is common office practice not to admit children with known disturbances of a contagious nature, not too infrequently infectious cases are nevertheless discovered in the waiting room. Such patients are then immediately segregated in a small isolation room where the diagnosis is confirmed and from where they can be dispatched home through a separate exit. Some pediatricians, however, employ different techniques and may prefer to use this space for fluoroscopy instead. It remains to be mentioned that age and physiology of the patients call for a toilet room within the suite easily and quickly accessible from waiting as well as examining rooms.

GENERAL NOTES ON PLANNING

to leave their clothes and belongings out of sight. These considerations should be kept in mind in examining the few layouts where dressing rooms are indicated.

WORK AREAS

The staff work area includes such spaces as secretary's office, laboratory, utility room, charting desk, etc. Contrary to the facilities used by the patients, these elements are not grouped together in a continuous unit, but are strategically distributed within the suite to best serve the function for which they are designed.

Receptionist-Secretary Office

The office of the receptionist-secretary must be close to entrance and waiting room for control of arriving and departing patients, for making new appointments and discussing financial matters, and for directing waiting patients to consultation, examination, or treatment rooms. Yet this office should also be located conveniently to the doctor's work area for easy access to records and for supervision of traffic within the suite. Another reason for the desirability of this relation is the fact that, due to limitations in personnel, the nurse is frequently required to double as secretary and vice versa. The question of whether or not the secretary's office should be an enclosed room or simply an open bay off the waiting room or a compromise between the two arrangements is again a somewhat controversial issue. To illustrate these possibilities, several different schemes are shown on the plans. For average conditions, however, it seems that the problem is probably best solved by a partially enclosed space having a glass partition with a sliding or open window on the waiting room side and connecting without any separation (no door) to corridor of work area. In this way the main objection against an open bay, namely lack of privacy for both waiting patients and secretary, is overcome without sacrificing visibility and ease of control.

Utility Room—Laboratory

Some possibilities of handling the utility room and laboratory problem are likewise illustrated by several different examples. For many specialties laboratory and utility room functions can be combined, others require separate accommodations, while still others get along with nothing but an instrument sterilizer, storage cabinet and wash basin in the examining room itself. A fairly practical solution, saving floor space and nurses' steps consists in the concentration of utility and laboratory equipment (counters, storage cabinets, sink, refrigerator, sterilizer, microscope, etc.) in a centrally located nurse's workroom, equally accessible from all examining and treatment rooms. It may be said in this connection that sterilizers in the examining rooms are sometimes considered objectionable because of the steam within the room.

Scale and Charting Desk Recess

Another feature of the work area, applicable in certain offices, is the scale and charting desk recess. Appropriately located in a niche off the corridor, these items allow the nurse to record the weight of a patient without tying up a room, and to lay out all records of those patients expected during the day for the physicians' review and notations. The desk is high enough for writing in a standing position and contains separate racks and compartments for records to be consulted, to be processed or to be filed.

CIRCULATION

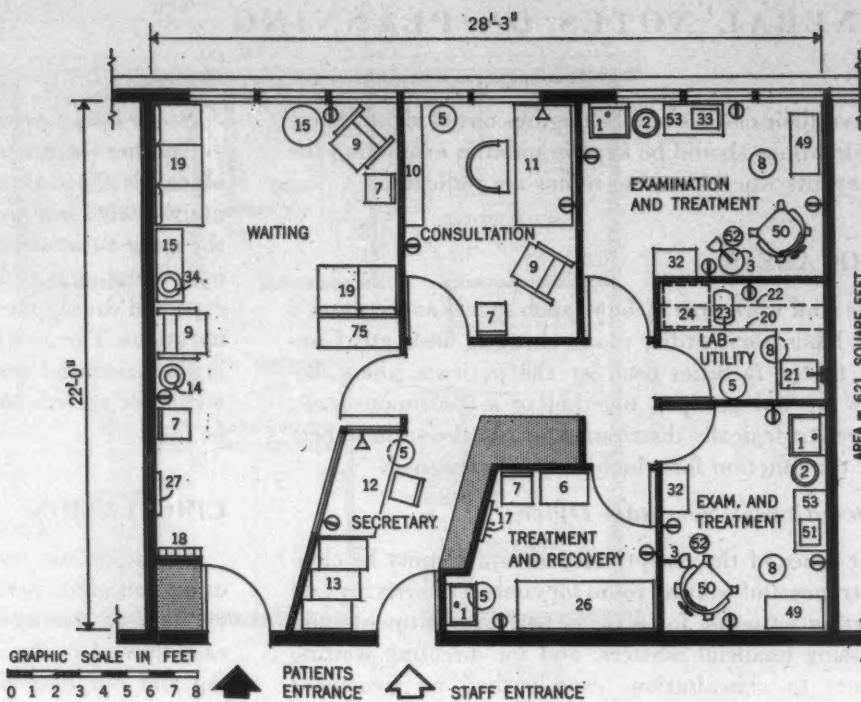
An important consideration in the design of a well organized office is the efficiency of the area allotted for circulation. During busy office hours it should permit an easy flow of traffic, avoiding confusion between incoming and outgoing patients, and affording undisturbed access and egress to and from work areas by both patients and staff. A separate entrance, allowing the physician to enter or leave the suite without passing through a waiting room, seems most desirable if not almost essential. This second entrance may also be used occasionally by patients wishing to avoid the waiting area, and for all commercial transactions such as deliveries of supplies, drugs, specimens, etc. The resulting corridor area, necessary to meet the described objectives, might by some be considered costly, unproductive floor space. But it seems hardly recommendable to sacrifice efficiency, convenience, comfort and privacy for a relatively small saving in office rent.

STORAGE

The individual needs and preferences for built-in storage facilities vary all the way from none at all to entire storage rooms. Here again we find the necessity of striking an economic balance between the rental expense of so-called unproductive floor space and convenience in operation for each particular instance. Obviously, no standard formula can be recommended, and the storage areas indicated on the plans (by dotted shading) represent, therefore, merely a possible average which can be amplified or reduced depending upon the analysis of each individual physician's requirements. The same consideration applies to the usage and interior arrangement of the different storage closets. No attempt has been made to indicate shelves, clothes poles, type of doors, etc., nor to designate the multitude of items to be stored, such as coats, uniforms, office supplies, instruments, medical equipment, etc.

TOILETS

Although many physicians may consider it desirable to include at least one toilet room within the limits of



OTORHINOLARYNGOLOGY

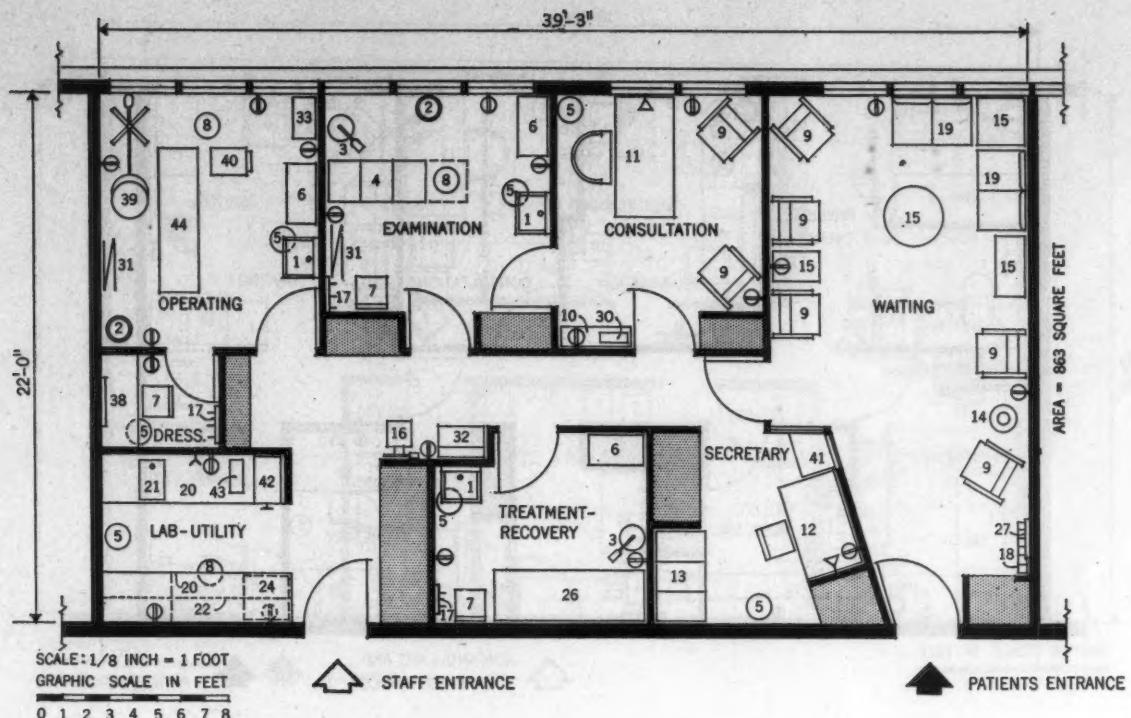
GENERAL NOTES ON PLANNING

every suite, toilet facilities have been shown only in those offices in which they are mandatory for the medical procedures of the respective specialty. It is, of course, assumed that public washrooms are available.

EQUIPMENT

While it is recognized that the final selection of each piece of equipment again depends upon the practice and training of the individual practitioner, it appears to be possible to crystallize certain basic requirements more or less corresponding to the average need. Wherever practicable, standard, movable furniture and equipment has been assumed, except in a few cases where a built-in desk, settee or counter seemed to offer substantial advantages or better utilization of floor space. Only major items which can easily be identified on the drawings have been included, and all small pieces, such as hand instruments, microscopes, typewriters, etc., were purposely omitted in order not to confuse the readability of the plans. *For identification purposes each plan symbol is provided with a number referring to the equipment legend on the first page, which, when folded out will be conveniently available for reference to each layout.* Generally speaking, the suites have been designed around the chosen equipment. In other words, the combination of furniture and equipment, logically selected and conveniently located to carry out the predetermined functions of a particular room or area, dictates the size, shape and arrangement of each such space. Those confronted with a planning problem may well remember not to reverse the process.

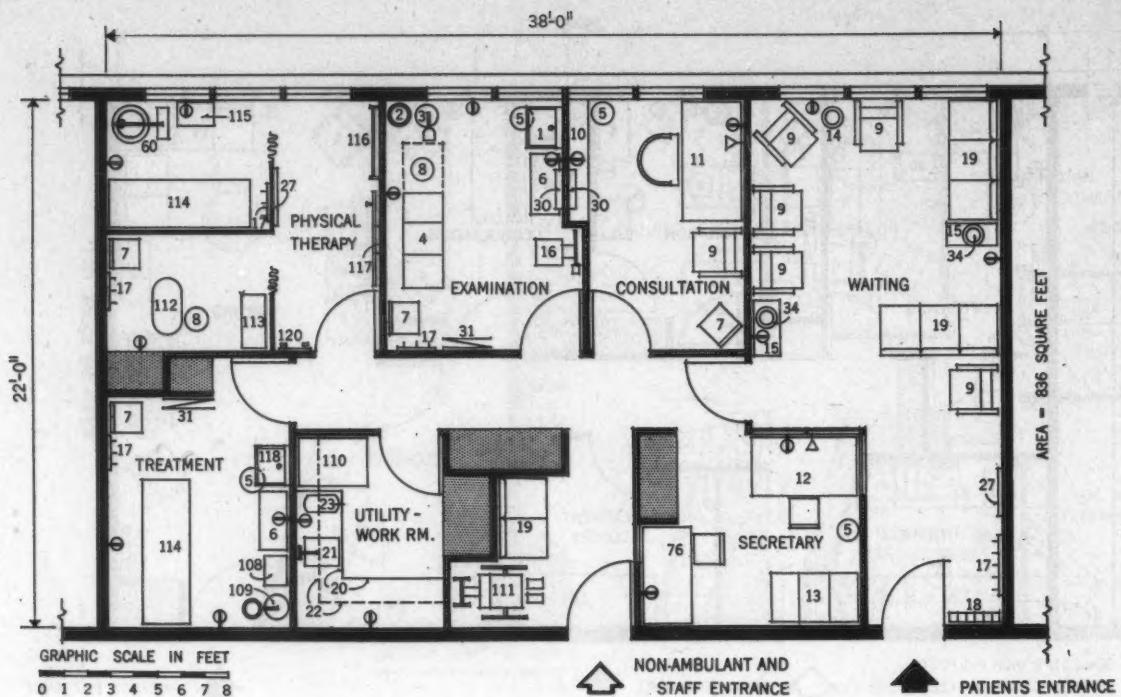
AN efficient practice of otorhinolaryngology can generally be carried out in a space somewhat smaller than the average occupied by some of the other specialities. The reasons for this economy may be found in the fact that treatment chairs are used in place of tables, all patients' rooms are combination examining and treatment rooms, no dressing rooms nor X-ray and other space-consuming facilities are required. The examining and treatment rooms can be quite limited in area, but it should be stressed that the relative position of furniture and equipment is of utmost importance. Mandatory special equipment includes such items as cuspidors connected to water supply and drain next to each treatment chair, suction and compressed air in each room (either piped from central location or built into individual treatment cabinets), electro cautery apparatus, etc. One room should be soundproof and isolated from street noises for audiometry, and at least one of the rooms should have only artificial light for transillumination. In this suite, too, the recovery room, which contains a couch and a lavatory, can be used to advantage for certain tests and procedures only performable on patients in a reclining position. As in several other suites, all utility and laboratory functions are combined into one compact unit which serves as a general workroom for the nurse. It includes refrigerator, work counter, supply cupboards, sink and pressure/sterilizer, all centrally available from the treatment rooms and eliminating the need for duplication.



SURGERY

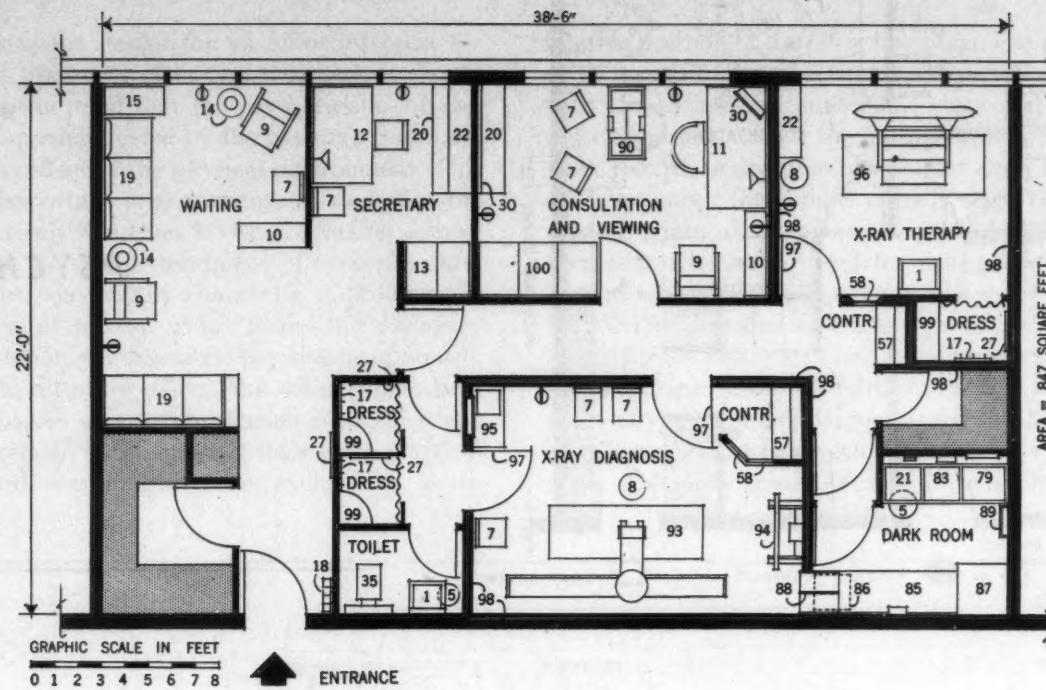
THE problem of striking a happy medium between the efficient, speedy handling of patients and achieving an atmosphere of unhurried individual attention is sometimes rather difficult to solve. Aside from the idealistic decisions, the final solution always depends on the answer to the economic question of how much space divided into how many rooms can be allocated for this and that purpose.

Conforming with the principal activities in the surgeon's office, the three workrooms of this plan have been labeled ostensibly "Examination," "Operating" and "Treatment-Recovery." Such a clean-cut separation, however, exists in name only, and can rarely be adhered to in reality. As a result of the varying case load and the considerable overlapping of these functions, the rooms must be designed for interchangeable use. For example, pre-operative examinations may be carried out in the minor operating room, stitches and casts may be removed in the examining room, dressings applied in the treatment room, etc. A logical deduction along these lines is the centralization of as much utility equipment and as many supplies as possible in a general nurses' work space independently accessible from all rooms. This would substantially increase flexibility and eliminate duplication. This utility area, often incorporating also certain laboratory facilities, does not have to be an enclosed room. On the contrary, an open bay, which does not entail the constant manipulation of an additional door, offers many advantages with respect to circulation and supervision. An inconspicuous location and at least partial shielding from patients' view, as suggested on this plan, are nevertheless desirable features.



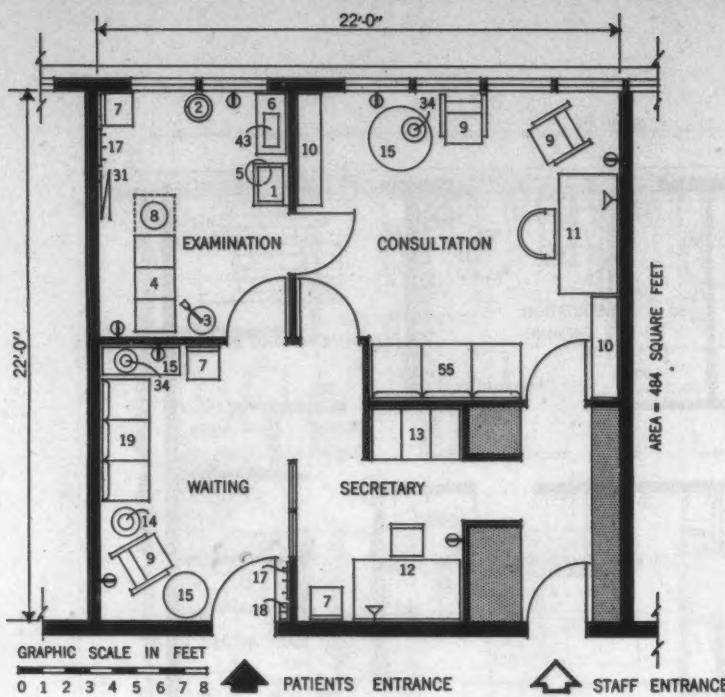
ORTHOPEDICS

PERHAPS more than any other suite, the layout of the orthopedist's office depends a great deal on the type of practice and working system of each individual physician. It is therefore extremely difficult to standardize on assumed, so-called "basic requirements." An infinite variety of possible activities will have to be considered in each instance, all influencing the planning to a considerable extent. If, for example, the orthopedist prepares arch supports and braces in his own office, he needs a special workshop for this purpose; if he is concerned with physical therapy and is assisted by one or more physical therapists, anything from a small room with a whirlpool bath up to a completely equipped gymnasium or exercise room may have to be included; if he prefers to do his own X-ray work, he will naturally require a separate X-ray room including film storage and darkroom. The plan shown here can obviously illustrate only one out of a multitude of different solutions. In addition to an examining room and a general treatment room, primarily intended for orthopedic work, a condensed physical therapy unit has been included for the sake of demonstration. It is divided into two curtained booths (one for hydrotherapy, and one for electrotherapy) with access through an open exercise area, incorporating some of the equipment normally encountered in this department. It should, however, be remembered that the comparative lack of privacy of this arrangement causes many physicians to prefer instead several separate rooms, even though decidedly more floor area is consumed thereby. If equipped as shown on the plan, the utility room serves as a general workroom for cleaning, preparing and storing supplies, instruments, plaster cart, etc., but, as mentioned before, its use is optional and adaptable to different activities. If space permits, a separate entrance and waiting alcove for non-ambulant and crippled patients on crutches will often save uncomfortable situations.



RADIOLOGY

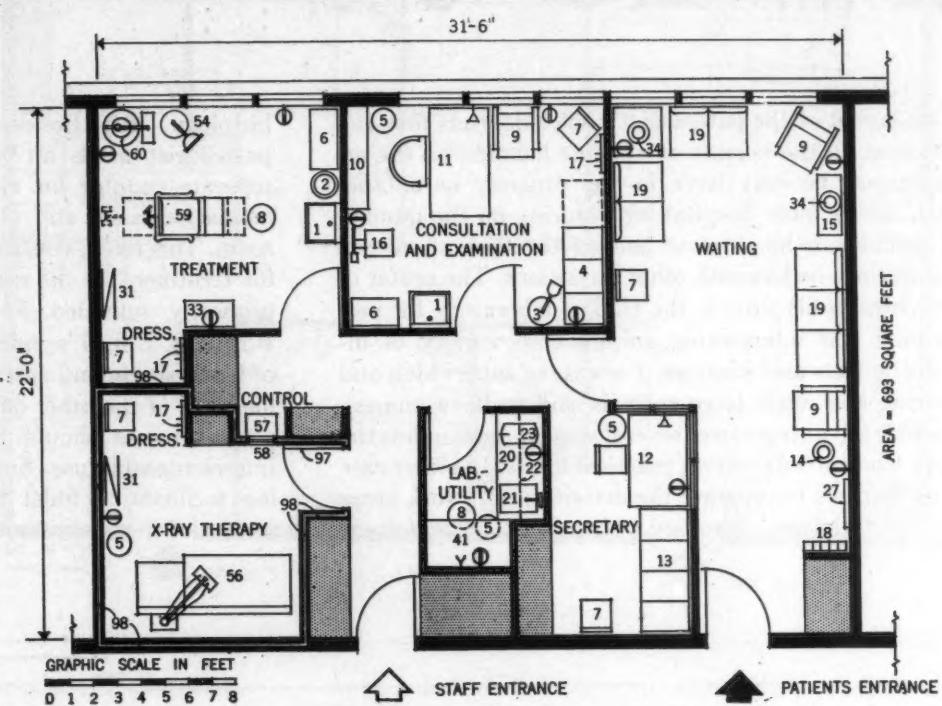
THE practice of the radiologist, in common with the one of the pathologist, differs from the other medical specialties in several respects. First of all, it assumes primarily the form of a consulting service for diagnosis and interpretation, and is therefore entirely dependent on the referral of patients from other physicians. In the second place, many practicing radiologists have part-time connections with X-ray departments of hospitals, clinics and other institutions where they have additional facilities and equipment at their disposal. Although the center of activities is unquestionably the fully equipped diagnostic X-ray suite for radiographic and fluoroscopic work, complete with film storage, darkroom, toilet and dressing rooms, a small therapy room for X-ray and sometimes radium treatments may occasionally be desired by the radiologist. The location and thickness of lead lining in walls, floors and ceilings, and the extent of other X-ray protection devices for diagnostic and therapy room, depends of course on the type and capacity of the equipment used. In any case, the controls of both rooms should be placed behind safe barriers with lead glass observation windows, permitting a full view of the patient during exposure to radiation. The diagnostic room should not be too restricted in size so as to allow referring physicians and even relatives to be present while the examination of a patient is in progress. The use of barium enemas in connection with certain X-ray examinations makes the inclusion of toilet facilities, immediately accessible from diagnostic room, a mandatory item on the list of requirements. The consultation room, which in this case serves also for viewing and interpreting of X-ray plates, should contain, in addition to the usual office furniture, film illuminators, a stereoscopic viewer and film filing cabinets accommodating at least one year's accumulation of exposed plates. Older films and records may be filed in separate storage areas, which frequently need to be somewhat more liberal in the radiologist's suite for this and other storage problems.



In dealing with the design for an office intended for diagnosis and treatment of mental disorders, it should always be kept in mind that the psychiatrist's job can be facilitated or complicated by the patient's emotional reaction to the effect of the physical environment. This is especially important in the waiting room and in the consultation room where an inviting, relaxing atmosphere, created by skillful treatment of space, texture, color and light, may vitally contribute to produce the desired release of tension which forms the necessary preliminary step in any successful psychiatric approach. In contrast to all other offices, the main emphasis in this suite is placed on the consultation room, in which the patients remain during most of their visits. Particularly important, according to some psychiatrists, is the

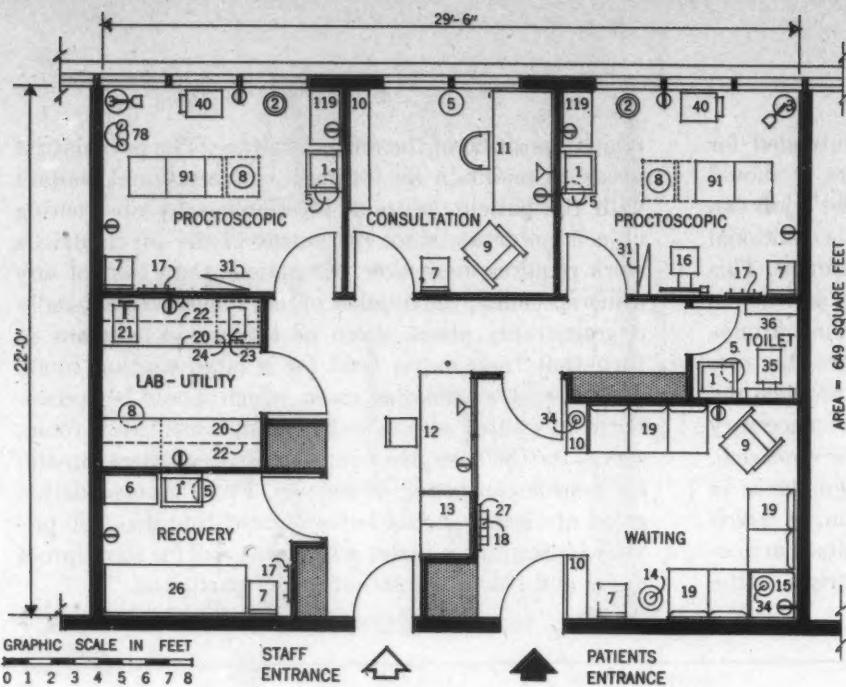
relative position of the office furniture. The psychiatrist needs to maintain an intimate conversational contact with the patient (without interference by obstructing objects on desk). Since the nature of the psychiatrist's work requires more time per patient than that of any other specialist, the number of daily office visits usually averages only about seven or eight, which means in turn that there is no need for a large waiting room. The general examination room, which should be accessible from waiting area as well as from consultation room, serves for the customary routine physical check-up and for neurologic testing of reflexes. From a construction point of view it should be mentioned that acoustic privacy is essential, a factor which may call for soundproof doors and sound insulation in the partitions.

◀ DERMATOLOGY



THE Consultation-Examination-Treatment section, which, according to the generally accepted formula for this area, should consist of at least three rooms, is located in its entirety along the preferred exterior wall of the suite. A relatively compact solution is nevertheless possible by arranging an inside waiting room, staff work area and recovery room along the opposite wall adjoining the public corridor. Again, the secretary's office, which in this case also serves as private entrance for physician and personnel, dominates the scene from the point of view of circulation. It permits easy supervision over waiting room, both entrances, interior corridor, and it is conveniently located for calls from and access to consultation room, examination rooms and nurses' workroom. A few special features to be considered in the design of this suite merit at least some brief remarks. Since many urologists are accustomed to

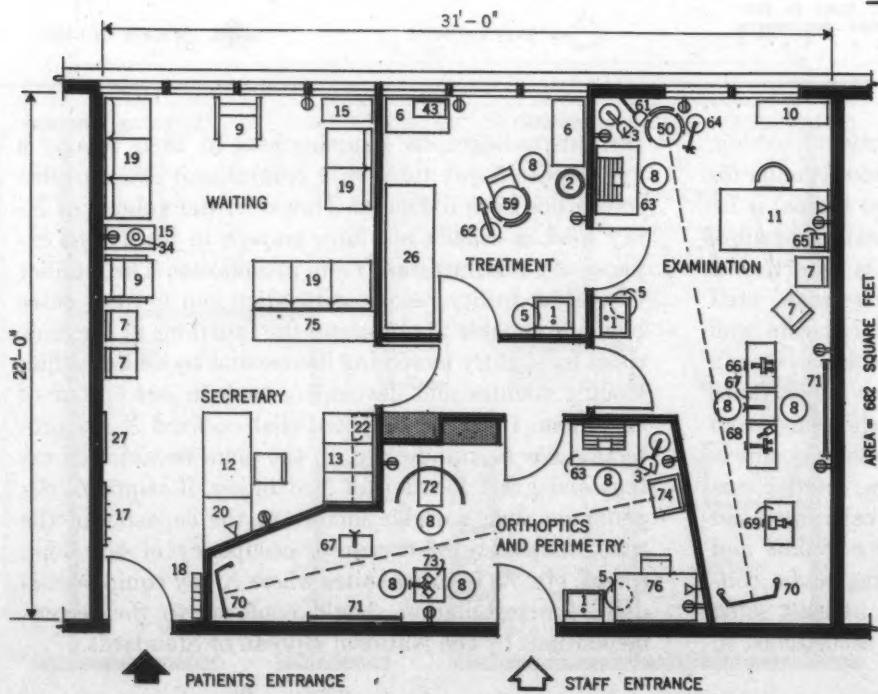
perform radiographic examinations in their offices, a cystoscopic X-ray table with control unit and movable screen has been indicated. However, the volume of X-ray work is usually not large enough to justify the expense of a separate dark room installation. The familiar laboratory-utility room combination can in most cases be made capable of absorbing the functions of the dark room by slightly increasing its size and by adding a film loading counter and developing tank in one corner of this room. It should be noted that no fixed X-ray protection has been indicated on the plan, because the extent and exact location of lead lining, if required, depends on such variable factors as the capacity of the tube, frequency of exposure, occupancy of adjoining rooms, etc. As in other suites where X-ray equipment is used, the installation should conform to the recommendations by the National Bureau of Standards.



PROCTOLOGY ▶

THE layout of the pathologist's office depends first and foremost on the volume of work he handles, on the arrangement he may have in one capacity or another with one or more hospital laboratories, on the number of technicians he employs and on the type of referral connections he has with other physicians. The center of activities in his suite is the clinical laboratory for performing and interpreting an immense variety of diagnostic tests and analyses. For ease of supervision and control, one single large room is said to have unquestionable advantages over several smaller ones, unless the work load exceeds certain practical limits. In either case it is desirable to separate the activities into work areas for bacteriology, serology, chemistry, hematology,

histology, etc. Besides the laboratory proper, the pathologist needs an office which usually includes a separate counter for microscopic work, a general examination room and at least one so-called treatment room. This room, containing a bed or couch, is not used for treatment in the common sense of the word. It is primarily intended for special procedures such as B.M.R.'s, E.K.G.'s, spinal punctures, and for collecting of blood specimens, smears, gastric fluids, etc. As in the majority of the other office suites, these last mentioned patient rooms should be designed and equipped for interchangeable use. Supplementing the specimen-taking facilities, a toilet room adjoining the urinalysis section of the laboratory is a great convenience.

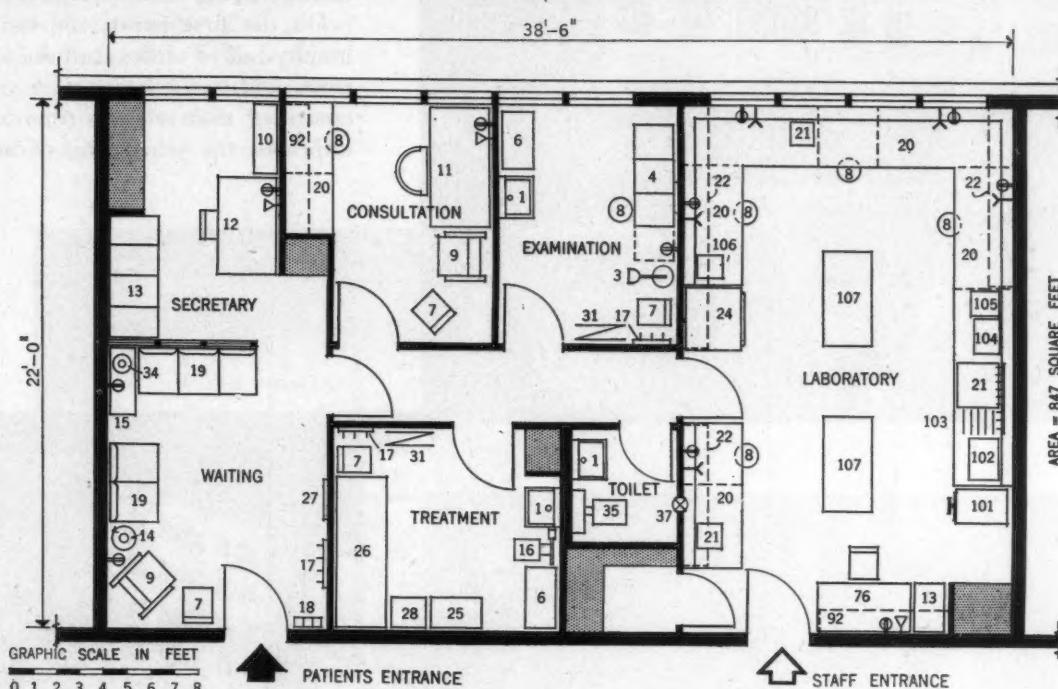


OPHTHALMOLOGY ▶

PROCTOLOGY, sometimes classified as a sub-specialty of surgery, could probably be practiced in a suite designed for a general surgeon with only minor adaptations. The list of planning requirements does not contain any particularly outstanding items, and this layout was primarily included for the sake of completeness. The principal special features, deviating from the general surgical program, may be summed up as follows: Instead of typical examining tables, often placed with head or side against a wall, all examination and treatment rooms should be equipped with free-standing proctoscopic

tilt tables. It will also be necessary to provide suction outlets in these rooms. Here, as in several other offices, the inclusion of at least one toilet within the suite is considered unavoidable. Sometimes preference is expressed for locating it in a treatment or even in a recovery room so that it can also be used in connection with high colonic irrigations and other procedures. A compact nurses' work space, which is in effect a combination utility room and laboratory with storage closets, similar to the one proposed for the surgeon, will most likely answer the proctologist's needs as well.

CLINICAL PATHOLOGY



THE ophthalmologist, like the ear-nose-throat specialist, being concerned primarily with examinations performed on the head and usually with the patient in a sitting position, substitutes the less space-consuming barber type chair for the customary examining table used by other specialists. This advantage is, however, offset by his request for a 20 ft distance between patient's chair and vision chart.

Although mirrors and special charts designed for shorter distances are frequently used to conserve space, ophthalmologists agree that these substitutes are at best only compromises which should be avoided whenever possible. Here again office consultation and examination are ordinarily combined in one single space by reserving one corner of the examining room for desk, chairs and bookcase. In the examination room and orthoptics room, special attention should be given to the correct location of each piece of equipment, particularly the proper relationship between patient's chair, doctor's stool and trial lens case as shown. If orthoptic

work is included in the ophthalmologist's practice and he employs a full-time technician, the inclusion of a separate room for that purpose is almost indispensable. It provides independent work space for corrective training of cross-eyed children, for the exacting and time-consuming perimetric testing of field of vision, and for a variety of other procedures which can conveniently be handled by a nurse or an assistant. Although the 20 ft length is not essential in this room, it will be a definite advantage to design it for this distance so that it can also be used as a second examining room. The treatment room, where horizontal positioning of the patient is sometimes necessary, may contain beside the special chair with adjustable back and head rest, a couch which will also serve for certain treatments as well as for recovery. The waiting room should be large enough to accommodate patients during their initial visit which requires two separate examinations and lasts about two hours. The greater part of these two hours is spent in the waiting room where dilating eye drops are administered.



MEDICAL BUILDING

THE Medical Building at Hartford is an unusually fine example of the principle that staff doctors' offices should be grouped near the hospital. It also offers a splendid case history of planning procedure to make that grouping most effective.

On the first point, the building brings together a hundred or so of the staff doctors in a building directly connected to the hospital. A year's operation has demonstrated that it saves time for doctors and patients, improves the scheduling of many hospital functions,

Joseph Molitor Photos



The Medical Building, though it is attached to Hartford Hospital, expresses its own plan requirements in form and fenestration. But it does use the same exterior materials and thus "fits in".

AT HARTFORD HOSPITAL

Connecticut Mutual Life Insurance Company, Owner

*Moore & Salsbury, Architects
Robert Loomis, Structural Engineer
H. B. Van Zelm, Mechanical Engineer*

from ward visits to operations, and gives the assurance of quick attention to patients in the hospital. It might also be mentioned that it is a wonderfully stable investment for its owners.

The planning of the building became a well organized effort, so that the rather complicated needs of the physicians could be studied and accommodated. The tenants being well known in advance, a doctors' committee was organized and given power to decide close questions with architects and owners in the group interest. And

finally a sort of assembly line procedure was adopted to settle final details with individual tenants or tenant groups. All doctors who had tentatively signed up submitted questionnaire forms giving enough information to enable the architect to arrive at an area total and an approximation of mechanical services required. Also, the owner could work out rental figures in advance, at which point individual doctors made definite commitments. There were fixed agreements as to standard and special equipment. With such matters agreed upon,



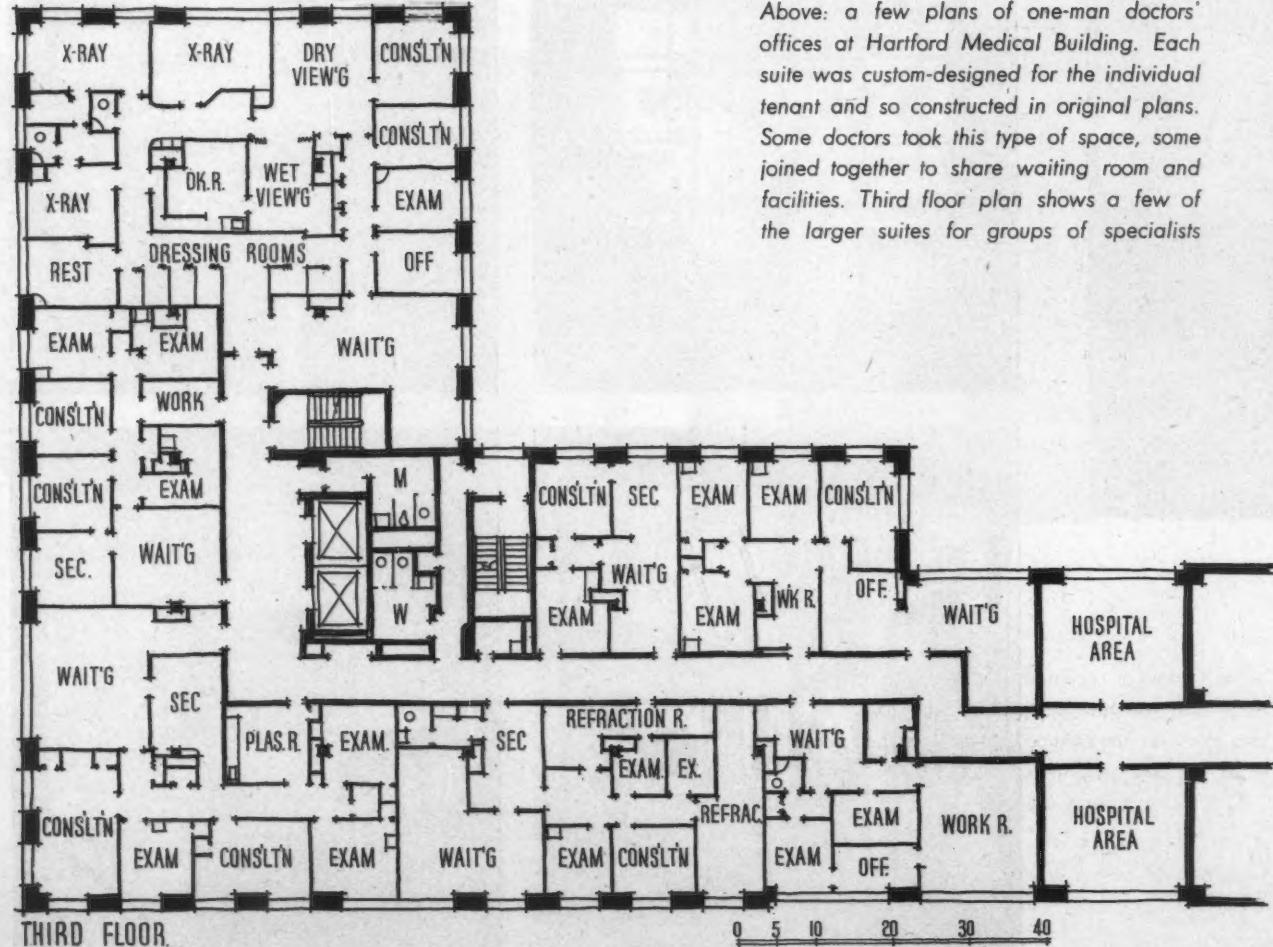
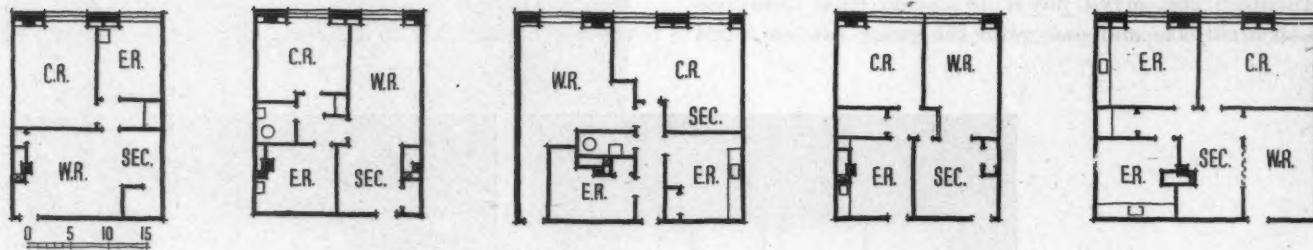
each doctor or group made appointments with the architects, and final layouts and details were settled upon. It therefore was possible to meet individual needs without getting hopelessly bogged down in negotiations.

The building is attached to the new Hartford Hospital, with direct communication on the lower floors. In spite of this close connection, the architects did not feel it necessary to duplicate the architectural expression of the hospital. There is a family resemblance, from the same basic exterior materials and some similarity in fenestration. But in general the Medical Building follows its own plan requirements and window arrangements. Windows are of the casement type with pro-

jected steel sash. All have permanent inside screens and venetian blinds.

The building is of firesafe construction, with steel frame, white glazed brick facing and cinder block backup. Floors are of cinder concrete, concrete filled.

Ceilings throughout are suspended, using demountable metal acoustic tile. Besides providing good sound treatment, this system allows wiring and plumbing lines to be run in the ceiling space, then dropped as required in the partitions. All partitions within suites are hollow metal flush-type panels, delivered to the building in specified colors. Ceilings and floors were finished in advance of partitions, for ease in alterations.



Above: a few plans of one-man doctors' offices at Hartford Medical Building. Each suite was custom-designed for the individual tenant and so constructed in original plans. Some doctors took this type of space, some joined together to share waiting room and facilities. Third floor plan shows a few of the larger suites for groups of specialists

Joseph Molitor Photos



Here are a few more or less typical waiting rooms, and, above, the drug store. All interior spaces have metal pan acoustic ceilings, suspended below a space left for plumbing and electrical lines, demountable metal partitions, prefinished to individual order



Joseph Molitor Photos





Office layouts in medical buildings have a habit of becoming complicated. These views give some idea of varying requirements as to use and equipment. There were standard agreements as to amount of plumbing and other equipment to be furnished by the owner, the rest to be installed by the building, billed to tenant

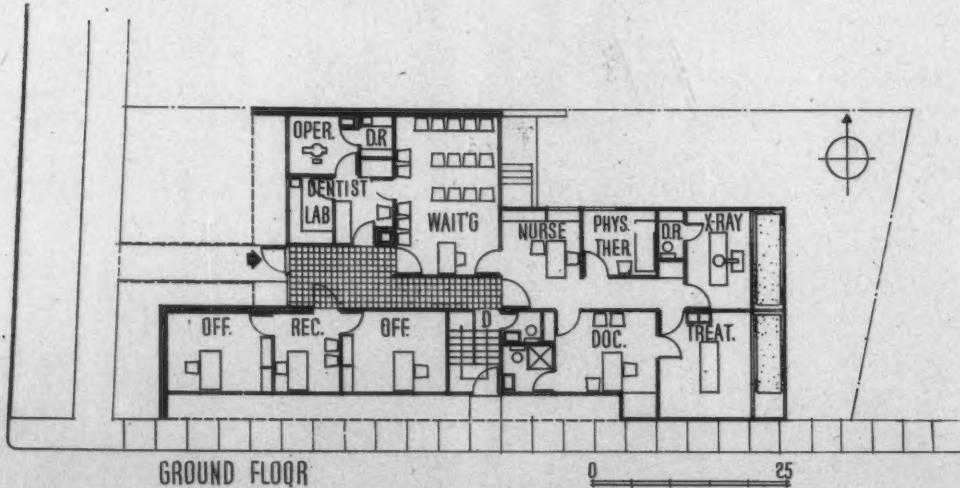


OFFICES FOR TWO DOCTORS

McHenry Clinic, McHenry, Ill.

John Van Der Muelen, Architect

THIS little building was built by a physician-surgeon for his own use, with a second suite for a dentist. There were also three other offices, intended for rental to non-professional tenants. But the building was so nice, the location so good, that there was heavy demand for them from other doctors who work occasionally in the vicinity. So the three small offices are now shared by six Chicago specialists, each of whom spends pre-arranged hours in consultations here. A laboratory, not originally planned, is now occupied by a full-time technician serving all the doctors. There are facilities for emergency operating, but not for hospitalization.

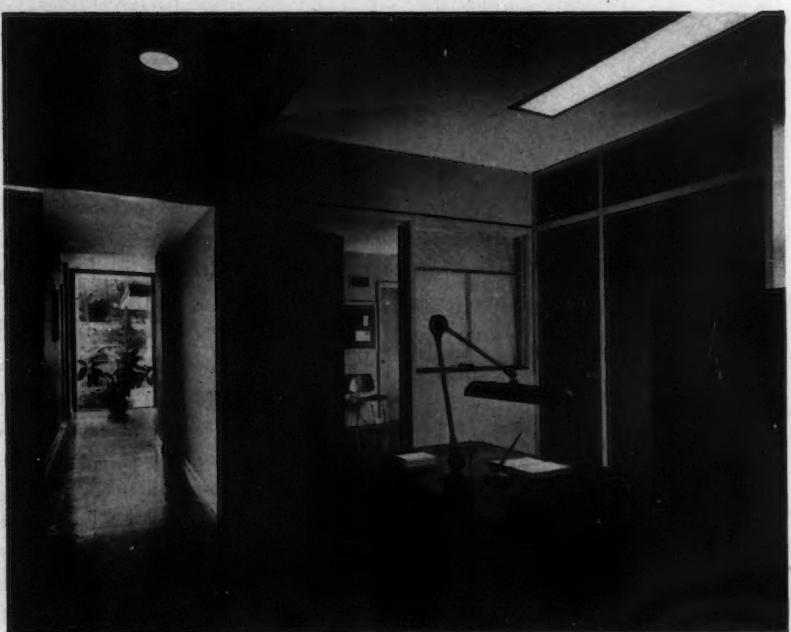




Hedrich-Blessing Photos

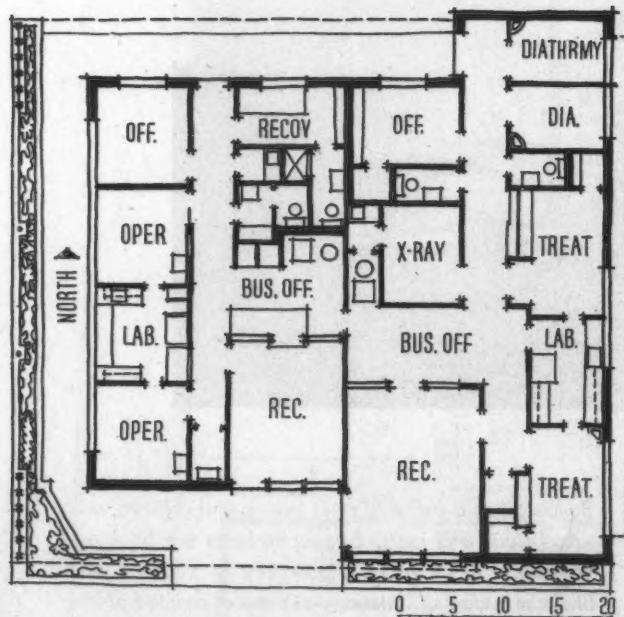


The building becomes elevated toward the rear, providing daylight for a small apartment and medical laboratory in the basement. The laboratory was an afterthought, made necessary by the crowding in of specialists not originally contemplated as tenants



Building has a frame of steel beams and columns, with wood studs and joists. Exterior surfaces are brick and vertical T & G wood. Floors are of plywood with linoleum surfacing. Interior walls are of painted plaster over wood studs. Fluorescent lighting in ceiling troffers

SUBURBAN BUILDING FOR DOCTORS



Not all doctors want to be close to the business district or even to the hospital. This little building is, then, a reversal of the centralization idea that was paramount in foregoing examples. Indeed it seems to represent an excellent idea for commercial development of outlying property. The site in this instance was once an apricot orchard, now in process of subdivision. Its frontage on three boulevards made commercial buildings seem logical, and a medical building was a good beginning.

The building is designed for the separate practices of a physician and a dentist. It was planned so that complete separation could be maintained, with separate entrances and waiting rooms. Nevertheless, the architects considered it wise to keep reception areas close together, so that should occasion arise the two suites could be joined together for operation with a single receptionist.

The long porchlike affair with its elevated planting beds is not as whimsical as it might appear. This is the western exposure, and the hot afternoon sun here is something to contend with. The roof extension protects the west side of the building completely, and the flower beds add further cooling effect.

Medical Building, North Hollywood, Calif.

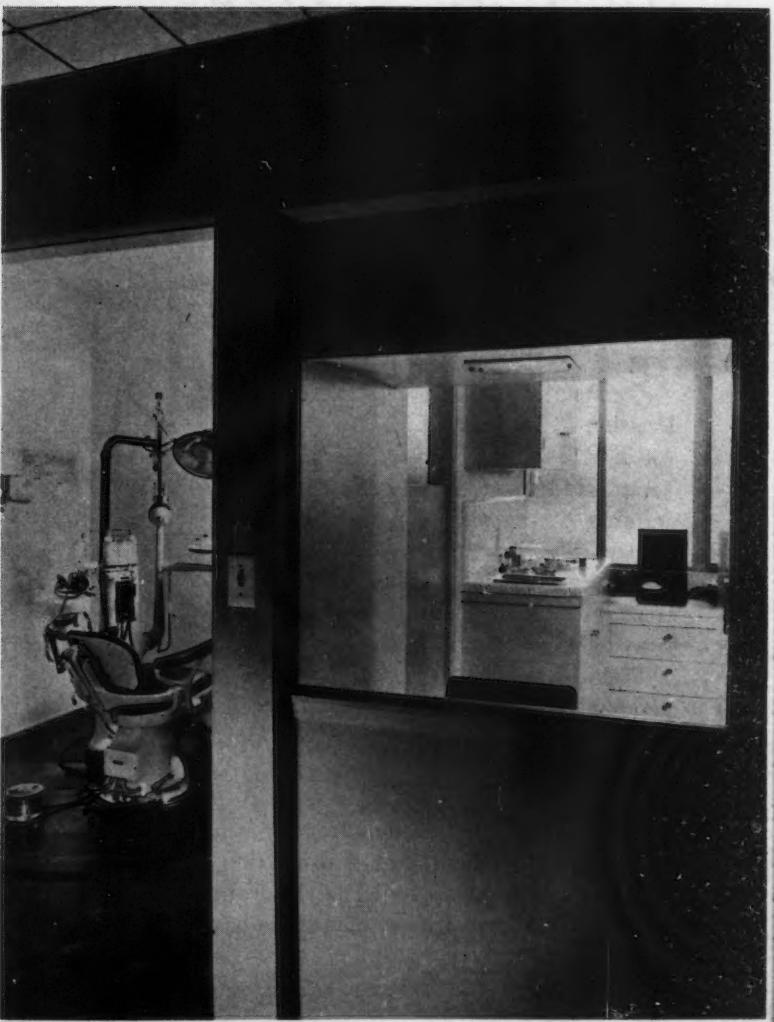
Edna Vetter, Owner

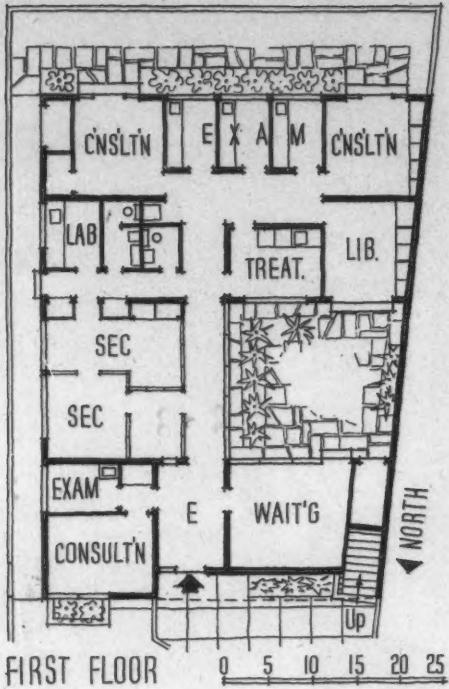
Office of Randall Duell, Architect



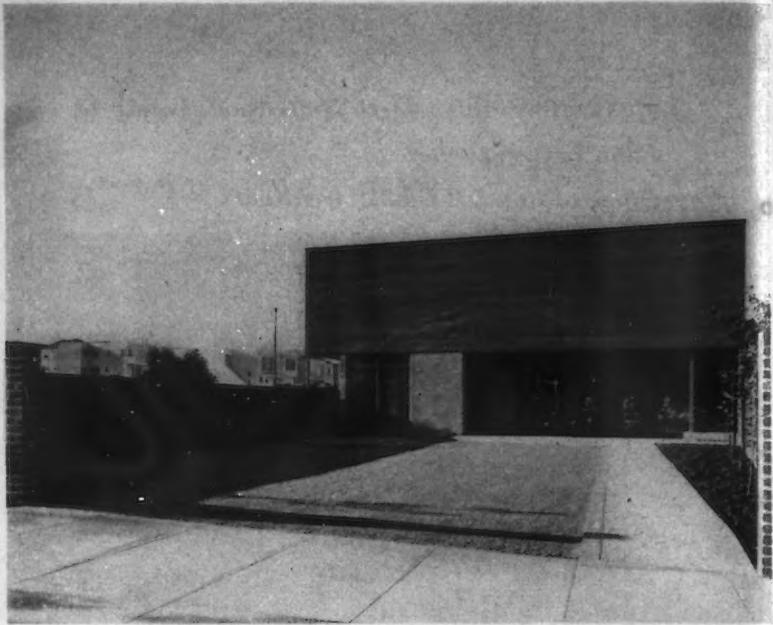
Julius Shulman Photos

Exterior is common brick; interior walls are frame and stucco. Floors are asphalt tile over concrete slab. There is a separate forced air unit for each suite that can be used for cooling in summer. As additional protection from heat the roof was extended on west side to keep off the hot afternoon sun.





Ronald Partridge Photos



MEDICAL OFFICES WITH PARKING

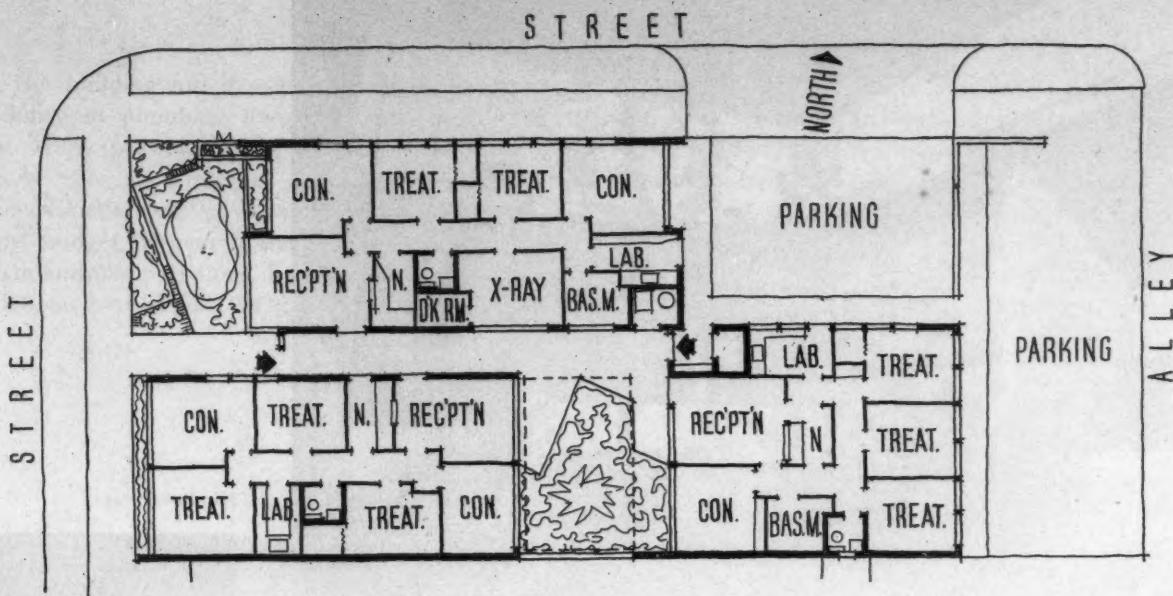
Shaw Medical Building, San Francisco
Francis Ellsworth Lloyd, Architect

BUILT to the requirements of three pediatricians, this building was put in a residential location. This was, of course, to make it easy for mothers and small children to visit the doctors, but it has the happy effect of lessening the number of supernumeraries who accompanied the mothers, for now a visit to the doctor is much less an occasion than when the offices were downtown. The building was set back for convenience in parking.

Making the small fry seem at home was given much attention by the architect. Colors and general feel were made as homelike as possible, and the small outside court provides a play area for waiting tots.

The plan gives exceptionally good separation to waiting, business and consultation areas. The one consultation room at the front is for an allergist, whose appointments are brief.





MEDICAL BUILDING IN THREE UNITS

600 South San Vicente Boulevard, Los Angeles

Rolf Sklarek, Architect

THE doctor-owners' request for three separate units here produced a unique plan solution for a building on a narrow lot. The conventional scheme in these parts calls for two front units and a third distinctly rear one reached by a long exterior walk. But in the scheme developed (plan above) the rear unit has been found to be the preferred location. Its patients use the same

entrance, it gains convenience to the parking space, and patio gives it extra pleasantness.

The patio, incidentally, aids in the acoustical isolation of the three units, beside contributing its graciousness to the building. This scheme had the further merit of utilizing parking space to best advantage, since no space need be left for turn-arounds.

Julius Shulman Photo





Julius Shulman Photos



Since the building has a solid slab floor, planning for flexibility in plumbing lines was something of a problem. Many possible layout schemes were considered, to be sure that original plumbing installations would accommodate the most combinations of space.

A tight budget prevented the contemplated use of metal demountable partitions. Each unit is constructed with full-span roof rafters, so that no partitions need

be load bearing. End walls were built as rigid frames, with some steel, for earthquake resistance.

The building uses a unique system of radiant floor heating and radiant cooling with the same piping, in combination with a "heat-pump" central unit. Results of this courageous choice have been quite good. However, the system is much too involved for description here; it will be reported in detail in a later issue.



An enclosed patio not only adds a pleasant note to two of the three reception rooms, but also serves to maintain acoustical separation of the suites. A corridor serves the same purpose of isolation, so that each suite is in effect a different building. In this scheme the rear unit has proved the most desirable

MOVING STAIRWAYS IN OFFICE BUILDINGS

By G. B. Gusrae

Voorhees, Walker, Foley & Smith, Architects

DURING the past two years, there has been a noticeable increase in the use of moving stairways for vertical transportation in office buildings. They were installed in the Chrysler Corporation Building, Highland Park, Mich., in 1948 to serve from the ground to fifth floor. Large groups of employees are transported from the ground to the eighth floor in the John Hancock Building by 4-ft moving stairways. Remaining floors of this 26-story building are served by 21 elevators. All floors of the five-story Tennessee Coal and Iron Co. building, Fairfield, Ala., will be reached by 14 moving stairways.

Office buildings have a high density population, normally requiring large elevator plants involving considerable capital outlay. This is especially true in single purpose office buildings where all employees arrive and leave practically simultaneously.

The substitution of moving stairways for some or all of the required elevators in office buildings to reduce costs has met with success. The objective of this article is to compare the economics and services of both and thus furnish tentative guide lines for determining how many moving stairways should be used in a projected office building with any number of stories.

All floors of the Chrysler Corp. administration building are reached by moving stairways. Albert Kahn Associates, Architects



Moving stairways in John Hancock Building run from ground floor to the eighth; elevators serve rest. Cram and Ferguson, Architects

General Rules

- (1) Moving stairs should be considered for buildings with 600 or more people distributed above the main floor.
- (2) Moving stairways should be limited to an overall rise of 6 floors for satisfactory service. The rise certainly should not exceed 8 floors, unless special conditions such as heavy inter-floor traffic justify it.
- (3) In a vertical transportation system employing moving stairways, at least one service elevator must be provided for carrying disabled persons and freight.
- (4) Moving stairways are preferable to an economically equivalent or costlier elevator installation.
- (5) Even in cases of economic disadvantage, the elimination of machine room and elevator pits, lesser steel loads, the immediate availability, large carrying capacity or requirement of rapid clearing or filling of a building may be determining factors.

Moving Stairway Chosen

At present the moving stairway sizes have been standardized at 2 ft, 3 ft, 4 ft and 32 in. widths. The latter is known as the "budget" size. These stairways are theoretically capable of carrying 4000, 6000, 8000 and 5000 persons per hr, respectively.

The 32 in. size has been chosen for this study because it is best suited for an average office building from the economic point of view. Some of the features of this stairway are:

Approximate width of step	24 in.
Space between balustrades	32 in.
Speed	90 to 125 ft per min (along incline)
Capacity	5000 to 6500 persons per hr
Cost	\$22,000 to \$25,000 per unit

A speed of 125 fpm and the unit cost of \$25,000 have been assumed in all discussions.

Advantages of Moving Stairways

Availability. The moving stairway is available to passengers for immediate use at all times thus eliminating the waiting period and floor stops inherent in any elevator installation.

Carrying Capacity. The size "32," 125 fpm moving stairway has a rated capacity of 540 persons in a 5 min interval. This is equivalent to about fourteen 2500 lb or about eleven 3500 lb elevators.*

Space Occupied. The area required for two, side by side, moving stairway units ** is 8½ ft wide and about 50 ft

* Based on two round trips in 5 min.

** A moving stairway unit is the mechanism, one step wide, for one story.



long. This length includes 8 ft access at each end of every unit. The total area is 425 sq ft.

The area required for three average size elevators including an 8-ft wide access corridor is about 17 ft wide and 30 ft long or 510 sq ft.

Since various codes permit the use of moving stairways as means of egress, the cost of at least one stationary stair and the value of additional floor space made available can be applied against the cost of the moving stairway.

Elevator Attendants. The substitution of moving stairways for elevators dispenses with the services of elevator attendants. The yearly cost of an elevator attendant in the New York City area has been estimated at \$5000. This includes a yearly salary of \$3500, the cost of relief, starter, uniform and insurance.

Machine Room and Pit. The substitution of moving stairways for elevators eliminates the need for an elevator machine room on top of the building and elevator pits under the lowest landing. Under some circumstances this saving may be considerable.

Power. A moving stairway unit requires 2 to 3 kw of electric power per hr as compared with 5 to 10 kw per hr for each elevator.

Supporting Steel. The weight and live load of two average moving stairway units per floor is about 60,000 lb as compared with the 60,000 lb for each elevator. The steel supporting the load of an elevator must extend in uniform size through the entire height of the building whereas the steel supporting the loads of the moving stairway units can be decreased in size from floor to floor as the successive number of stairway units decreases.

Shutdown. The shutdown of an elevator deprives the building of one unit of vertical transportation for all floors. The shutdown of one moving stairway affects only one floor in one direction. The adjacent stairway unit can be made to reverse its direction of travel so as to take the place of the shutdown unit should this be necessary.

Disadvantages of Moving Stairs

Speed. The obvious disadvantage of the moving stairway is the relatively slow speed of vertical transportation. Although the moving stairway has a very large passenger carrying capacity as compared with elevators, its vertical speed at its best is only 60 fpm. Considering the additional 5 to 8 sec required for walking between stairway units, the vertical speed of a 125 fpm stairway is equal to an elevator speed of 35 fpm.

The fact that the same passenger may have to wait as long as 2 min for elevator service in no way alters his reaction to the apparently long travel time on the moving stairway. A certain amount of education in this sphere would contribute a good deal to a more positive attitude of the public to the moving stairway as a means of transportation to higher floors.

Personal Feeling. To some passengers a moving stairway represents transportation where the passengers have to do a good deal of work as contrasted with the attendant operated elevators where the passengers are being transported at their leisure. Obviously, more alertness is required of the moving stairway passenger than of the relatively relaxed person in an attendant operated elevator.

Disabled Persons and Freight. The

moving stairway is unsuitable for those partially or totally disabled, for the infirm, for some aged persons and for those who suffer from certain phobias.

Freight loads, such as desks, chairs, tables, filing cabinets, safes, refuse, etc., common in office buildings, cannot be transported on a moving stairway.

To provide vertical transportation for disabled persons and freight at least one elevator must be provided with a moving stairway installation.

Daily Cost of Moving Stairways and Elevators

The daily cost values, as indicated in Table I, show that an average moving stair unit costs about \$9.15 per day, self-service elevators \$8.50 to \$24.90 per day, and attendant operated elevators \$25.20 to \$41.60 per day. These values will be used for determining the economic feasibility of replacing elevator installations with moving stairways.

When Should Moving Stairways Be Considered?

Table II was prepared to help determine when moving stairways should be used. The values in the table indicate the number of elevators which are economically equivalent to a respective moving stairway installation. For instance, in a 4-story building, 6 moving stairway units and one freight elevator will cost \$63.40 per day. Five \$30,000 self-service elevators will cost, as explained in the subsequent paragraph, \$65.50 per day. The two cost values are practically equivalent. Therefore, in a 4-story building, whenever five or more \$30,000 self-service, or two or more attendant operated elevators are contemplated, the use of a moving stairway

Table I is not a comparison of costs of elevator and moving stair, but a list of various costs, on a daily basis.

Notice that the daily cost of moving stairway shown must be multiplied by the number of floors served. Elevator costs shown are for the entire installation, the choice depending on many factors—height, speed, building population, etc.

TABLE I—DAILY COST OF MOVING STAIRWAY AND ELEVATOR

Moving Stair Unit (one-story)	ELEVATOR (various stories)								
	20,000	25,000	30,000	40,000	50,000	60,000	70,000	80,000	
Capital Invested	25,000								
Capital Recovery	1450.00	1160.00	1450.00	1740.00	2320.00	2900.00	3480.00	4050.00	4620.00
Liability Insurance	200.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
Electric Power	270.00	550.00	600.00	650.00	700.00	750.00	800.00	850.00	900.00
Maintenance	500.00	500.00	600.00	700.00	900.00	1100.00	1300.00	1400.00	1600.00
Space Cost	320.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00	300.00
Total Cost per year	2740.00	2560.00	3000.00	3440.00	4270.00	5100.00	5930.00	6650.00	7470.00
Daily Cost— self-service	9.15	8.50	10.00	11.50	14.20	17.00	19.80	22.20	24.90
Daily Cost with elevator attendant		25.20	26.70	28.20	30.90	33.70	36.50	38.90	41.60

A capital recovery factor of 0.05783 was based on 30 year life of equipment, 300 days per year and 4 per cent return. (This is the money that has to be put aside to replace the installation at the end of 30 years.)

The liability insurance premiums are estimated. The

cost of power is estimated at 3 cents per kWh, 10 hrs each day. Cost of occupied space is based on \$2.00 per sq ft per yr. Cost of an elevator attendant is estimated at \$16.70 per 10 hr day, including the cost of relief, starter, uniform and insurance.

installation with one freight elevator would be preferable.

Since a moving stairway installation occupies 15 per cent less space than three average elevators, a space value correction factor was included in the elevator figures of Table II.

For instance, the moving stairway installation in a 4-story building costs \$63.40 per day. Five \$30,000 self-service elevators cost \$57.50 per day. The substitution of moving stairways for the five elevators would occupy the space for only three cars.

The space released would be 2 by 150 ft per floor or a total of 1200 sq ft for the four floors. At the value of \$2.00 per sq ft per year, this space is worth \$2400.00 per year or \$8.00 per day. Adding the space value to the elevator cost we obtain a figure of \$57.50 plus \$8.00 or \$65.50, showing that an installation of five \$30,000 self-service elevators is economically equivalent to a moving stairway installation.

It is interesting to note that, in some instances, an elevator installation may represent the same daily cost as the respective moving stairway installation, and yet the initial capital is not the same. For instance, for an 8-story building, six \$70,000 elevators have the same daily cost as a moving stairway installation although the former will cost \$420,000 to install and the latter only \$375,000.

Another point worthy of note is the unusually small number of elevators

operated by attendants, that can be made economically equivalent to a moving stairway installation. In a 4-story building whenever two or more \$30,000 attendant operated elevators are contemplated a moving stairway installation should be considered preferable.

The preference of a moving stairway over an economically equivalent elevator installation is due to considerably larger carrying capacity of the former.

Examples

The following examples illustrate the application of Table II in determining whether elevators or moving stairways should be used.

Example 1

Height — 4 stories
Population — 280 per floor or 840 above main floor
Elevators required — 5 of the \$30,000 class

According to the data in Table II, five \$30,000 elevators are economically equivalent to a moving stairway installation. The moving stairway would be preferable. If attendant operated elevators are contemplated, the moving stairway installation will be considerably less expensive.

Example 2

Height — 6 stories
Population — 190 per floor, or 950 above main floor
Elevators required — 6 of the \$40,000 class

building, the designer may check, in this table, whether it is more or less expensive than a moving stairway plus one freight elevator. Basis is daily costs as determined from Table I

Referring to data in Table II we find that the moving stairway installation is preferable regardless whether the elevators are of the self-service or of the attendant operated type. The moving stairway will be considerably less expensive than attendant operated elevators.

Example 3

Height — 14 stories
Population — 2800 above main floor
Elevators required — 12 of the \$70,000 class

We note from data in Table II that for a 7-story building, 3 attendant operated \$70,000 elevators are economically equivalent to a moving stairway installation. By substituting moving stairways for 6 attendant operated elevators to provide service to the 7th floor, and by running 6 attendant operated elevators express to the 7th floor and local 7th to 14th floor, considerably better service will be obtained at lesser expense.

Example 4

Height — 12 stories
Population — 1000 above main floor
Elevators required — 6 of the \$60,000 class, attendant operated for fair service

By substituting moving stairways for 3 attendant operated \$60,000 elevators serving main to 6th floor, and running 3 elevators express to 6th floor and local 6th to 12th floor, considerably better service will be obtained at same cost.

TABLE II

	Number of moving stair units	4 FLOORS		5 FLOORS		6 FLOORS		7 FLOORS		8 FLOORS	
		Self-Service	with attend.								
Moving Stairway Installation	Number of freight elevators	6		8		10		12		14	
	Installation Cost	1		1		1		1		1	
	Daily Cost (from Table I)	170,000		220,000		275,000		325,000		375,000	
Economically Equivalent Elevator Installation based on Daily Cost	No. @ \$20,000	6	2	7	3	8	3	9	4	9	5
	No. @ \$25,000	5	2	6	3	7	3	8	4	9	4
	No. @ \$30,000	5	2	6	3	7	3	7	4	8	4
	No. @ \$40,000	4	2	5	2	6	3	7	3	7	4
	No. @ \$50,000	4	2	4	2	5	3	6	3	7	4
	No. @ \$60,000	3	1	4	2	5	3	5	3	6	3
	No. @ \$70,000	3	1	4	2	4	2	5	3	6	3
	No. @ \$80,000	3	1	3	2	4	2	5	3	5	3

Bold numbers indicate most logical elevator installations

To free floor space of this shopping center in Portland, Ore., the engineer designed the roof to hang from five huge concrete frames

Art Commercial Studios Photo



STORE ROOF HANGS FROM CONCRETE FRAMES

Designer: Leslie E. Poole, Engineer

Contractor: A. M. Hocken

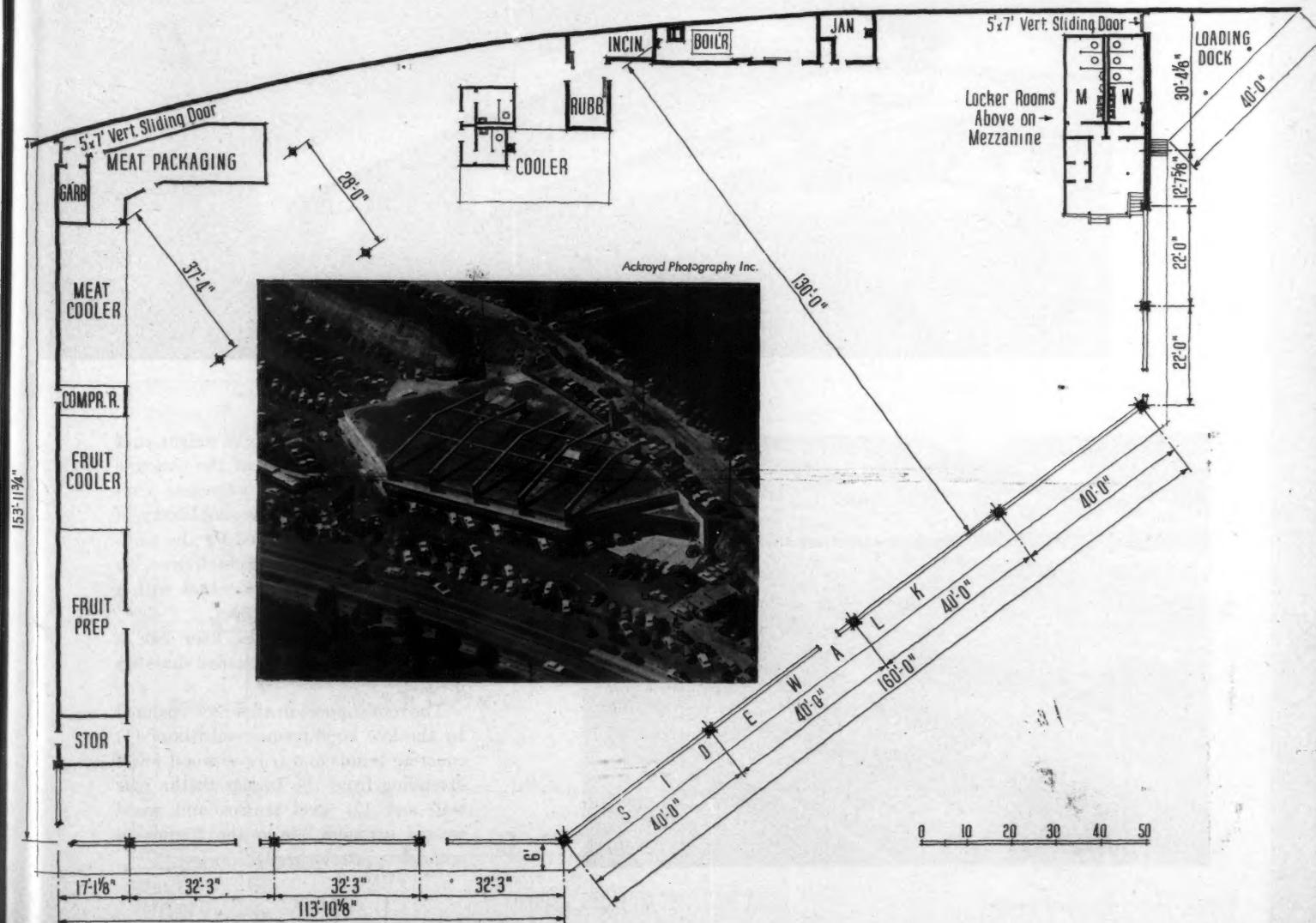
FRED MEYER BURLINGAME is a complete shopping center under one roof: it combines a super market, drug store, coffee shop, apparel shop and appliance store. To enclose all these facilities takes a big roof. And if this roof

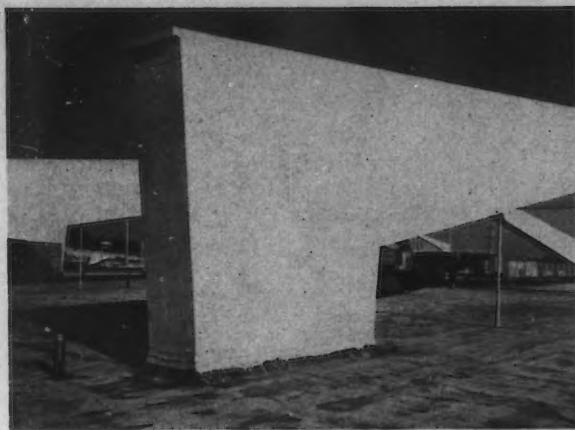
were supported by conventional wood trusses and posts, the flexibility of merchandise display and location of traffic areas would have been limited.

The designer neatly solved this problem by suspending the roof and

ceiling from lightweight concrete frames. Trussed wood joists to which the roofing and ceiling are attached, hang from tie beams of the frames.

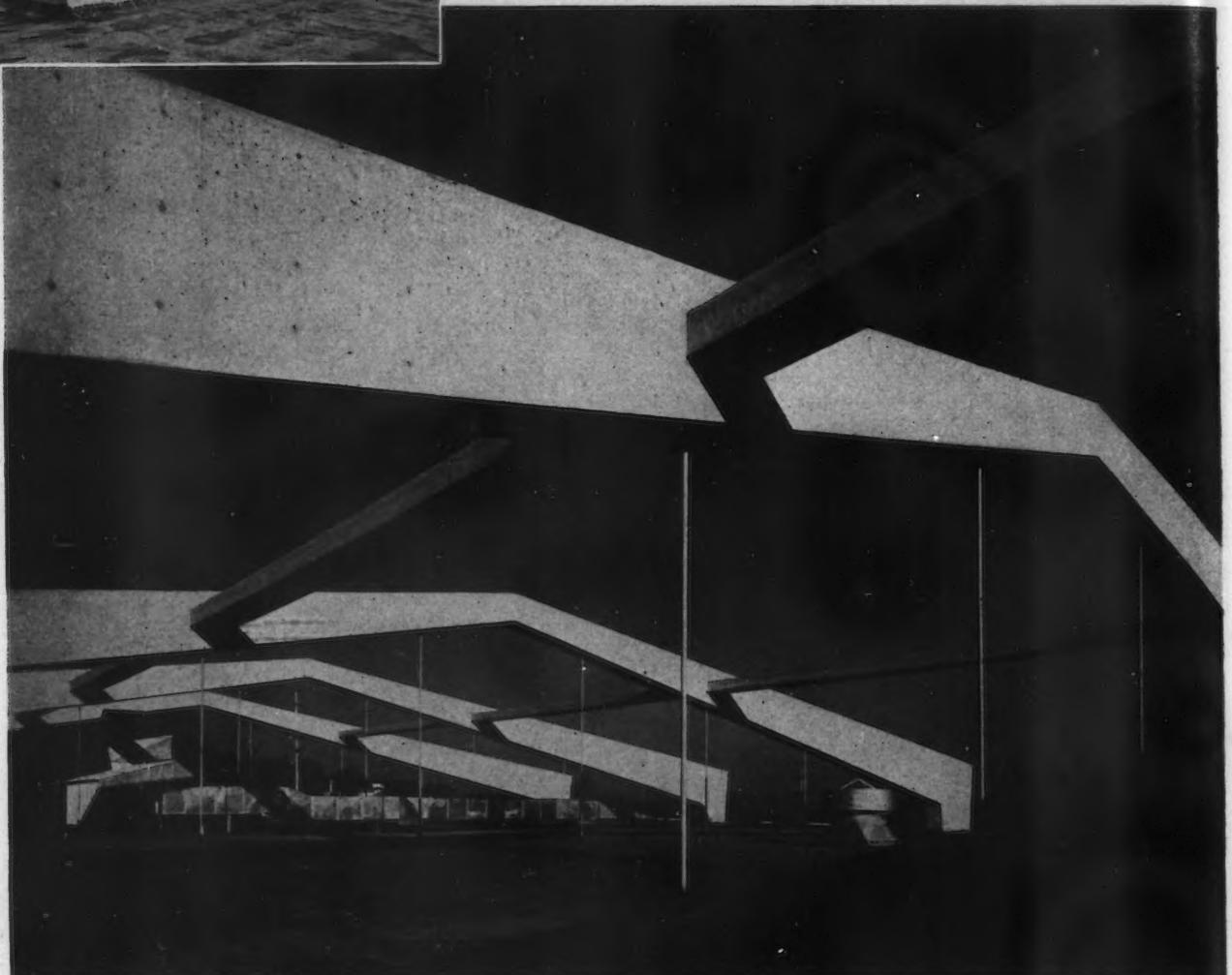
In describing the concrete frames, Mr. Poole says that the savings in steel





The vertical haunches of the concrete frames project down through the roof as shown in the inset. This simplifies the flashing and improves the appearance over an "A" frame

Art Commercial Studios Photos

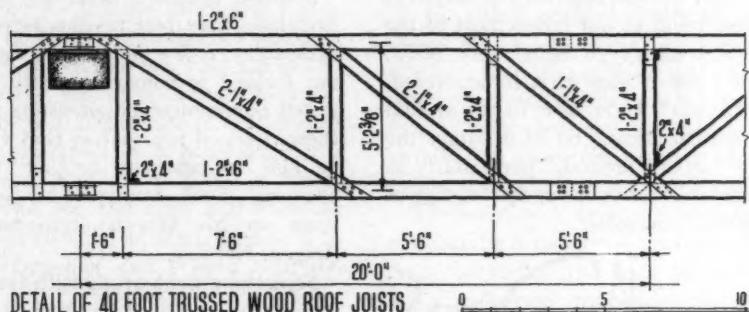
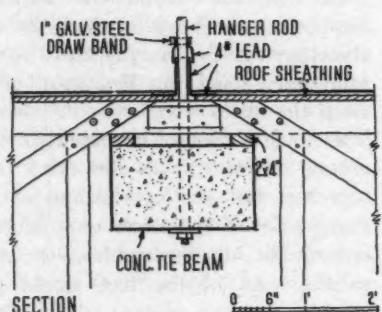
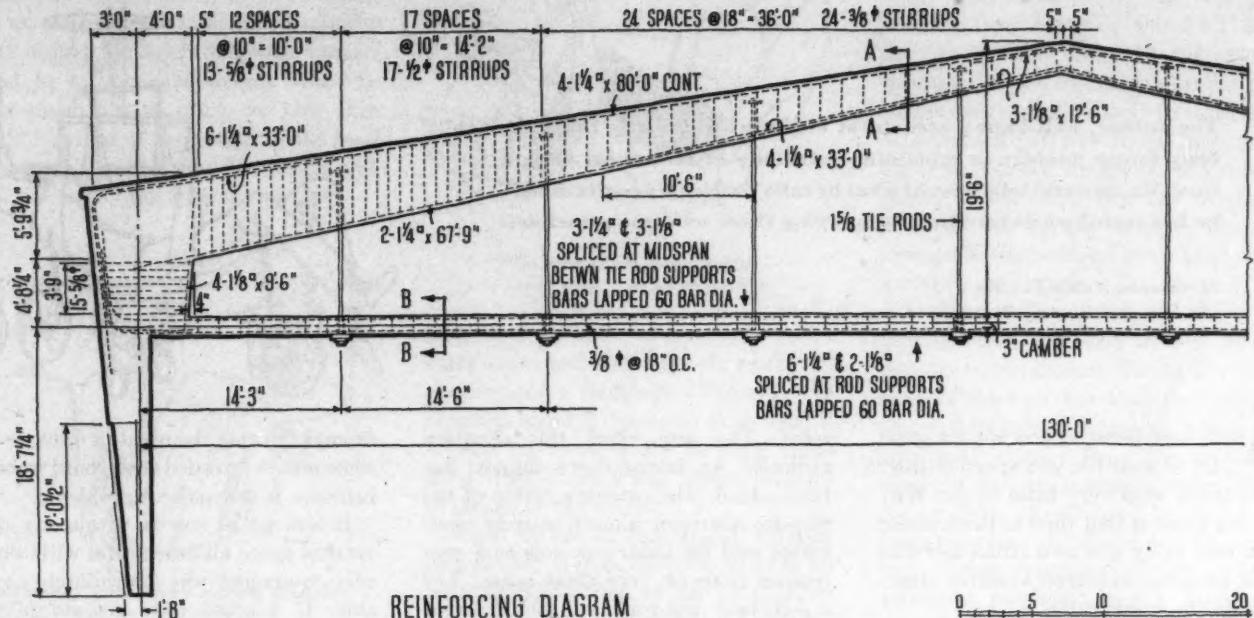
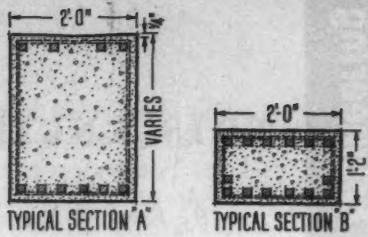


brought about by the light weight paid for the additional cost of the concrete above that of regular aggregate concrete. He reports that the simplified roof construction compensated for the additional cost of the concrete frames, so the overall cost was no more than with a conventional wood truss roof.

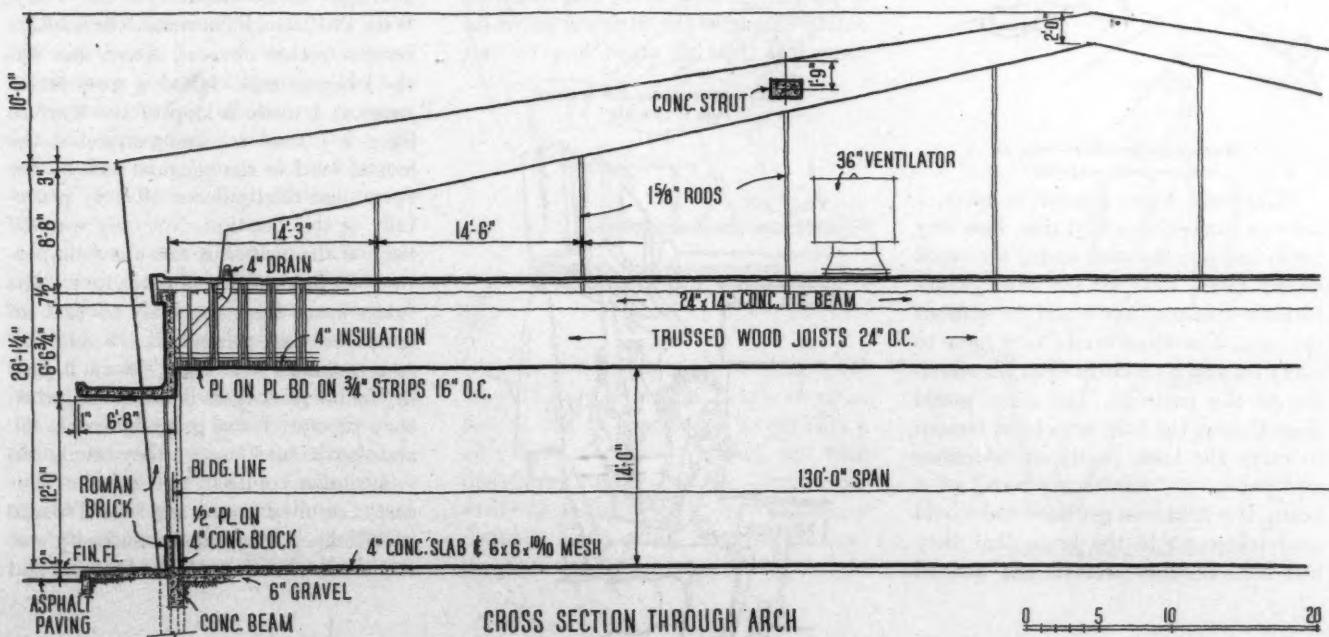
All concrete above the floor line is lightweight, using an expanded shale aggregate.

The roof support in areas not spanned by the five large frames consists of (1) concrete beams and trussed wood joists extending from the frames to the rear wall and (2) steel trusses and wood trusses extending from the frames to remaining exterior walls.

Below and right: drawings show location and amount of reinforcing in what is virtually a tied, 3-hinged frame. Flexibility of thin sections is assumed to provide hinging action. Concrete is lightweight, using expanded shale



Above, left: flashing detail of hangar rod; roofing is built-up asbestos. Above right: typical wood truss; this one spans between concrete frames



THIS ENGINEER TRAVELS IN COMFORT

By Fred N. Severud

The author, well-known structural engineer, frequently takes the body for an analogy in explaining principles of structural design. Now, Mr. Severud tells how, in what he calls "sedentary cogitations," he has rested while traveling by applying these selfsame principles.

Sketches by Walker O. Cain

Did it ever occur to you what a great part of your life you spend sitting? Sometimes with very little to do. Why not use some of that time to think about how your body acts as a structure? The most amazing, thrilling, versatile structure on the whole earth.

We had a combined gardener and handy man working for us until a few years ago. He was married but stayed in his own room at our house most of the time and didn't go home very often. When I asked him why, he answered, "Oh, I don't know how to set around any more at home." So let us study the art of "setting around," particularly as it helps us broaden our understanding of structural principles.



"Sometimes to relax I take an unnecessary taxi ride"

Sometimes when I need to relax, I take an unnecessary taxi ride, lean way back and put my arm under the small of my back. You can see how uncomfortable this position would be without the arm. The torso would then have to carry its load as a beam from the shoulder to the buttocks. The torso would depend upon the back muscles in tension to carry the load, partly as catenaries and partly as "reinforcing rods" of a beam. It would soon get tired and would send telegrams to the brain that they had been unfairly treated and wanted

relief. The arm alters this situation radically. An intermediary support has been added. The catenary action of the muscles has been almost entirely eliminated and the torso now acts as a continuous beam on very short spans. Try it sometime and you'll see what I mean. You can "set around" in that position for hours without getting tired.

Another approach involving different principles may best be illustrated by a little story. A few years ago I was visiting Iceland in connection with a projected government broadcasting station there. I timed my visit so that I would be able to hear my brother, Harald Saeverud, conduct some of his compositions on his fiftieth anniversary in Bergen, Norway.

Something went wrong with the reservations so I had to sit up all night on the train from Oslo to Bergen after having just spent a night on the plane from Iceland. I knew I would be called upon to give a few speeches in my half-forgotten native tongue so the situation called for some real thinking about how to "set

"If gave passengers first a shock, then a chuckle"



around" during the night in order to get some rest. A crowded train, hard wooden benches; it was quite a problem.

It had to be solved within my own vertical space allotment and with whatever equipment was immediately available. If I could only get rid of my head! This relentless load bears down upon the vertebrae and adds to the "soil" pressure under the buttocks. Supporting the head on the arms with the elbows resting on the knees is only temporary relief. As you drop off to sleep the knees won't stay in position. This could be helped by binding a scarf around the two knees and tying them together, but the overloading at the sharp point of the elbow soon becomes unbearable. Also the load from the knees to the soles of the feet would give trouble.

No, the solution had to be more drastic than that. If only the weight of the head could be carried by some mechanical means outside of the body! With this thought in mind, the solution became rather obvious. Above me was the baggage rack. I had a scarf and a strap so I made a loop of the scarf to hang my head in, and connected the looped scarf to the baggage rack by the strap, and finally dozed off very peacefully in this position. Not only was the load off the head, but also a certain portion of the weight of the torso was taken away from the body so that all pressures were minimized. In addition to giving me a good night's sleep, it gave my fellow passengers first a shock, when they thought I was going to end it all, and then a chuckle when they caught on.

A similar solution, not quite so dramatic, resulted from a trip from Toronto to Winnipeg. Here again, necessity was the mother of invention. Due to bad

weather, the few hours' sleep that I had planned on catching at Toronto were gone, and I had to go on directly to Winnipeg after having been up all night. My lecture there was at 3 p.m., and the plane was due to arrive at two o'clock. On an airplane, the undignified solution that would be tolerated with amusement in a Norwegian coach would be very much out of place. So how then could I get rid of the weight of the head in a more dignified way? If not in tension, then why not in compression?



"The only compression member available was the removable arm"

The only compression member available was the removable arm separating the two seats. The adjacent seat was fortunately empty. I took the separating arm out, and, after a few trial-and-error experiments, slanted the arm so that a pillow placed on it would be level with the window sill and rest partly on the sill and partly on the separating arm. This carried the load of the head very nicely and mechanically to the floor of the plane. The torso had to be slanted as shown in the sketch, and this posed a secondary problem. This position would lift the left buttock off the seat and put too much concentration on the other. This was easily remedied by bunching up a blanket simulating a slanting chair bottom. A thick book or a briefcase would have done just as well. (Hint to commuters resting elbows on window sills.) In this position I had no trouble catching up on my sleep, and the lecture was at least better than it might have been.

I believe, however, that the most comfortable position that I have slept in on an airplane was on my first crossing of the Atlantic. There I had the advantage that not only was the adjacent seat vacant, but also the two seats ahead of me. Obviously, a horizontal position giving uniform support for the whole length of the body is by far the most restful. With my long legs this is not easy to obtain unless some additional supporting area is provided. With the



"The most comfortable position I have slept in on an airplane"

extra seats and the blankets available, this became a challenge. Obviously the blankets could be made to carry load if I only had some place to hang them from. The solution was simple enough, as shown in the sketch.

While we are on this subject, I'd like, as a matter of completeness, to wind up with an exploration of the possibilities of developing furniture which leans forward instead of backwards! It seems to me that it has been taken for granted that only by leaning backwards can a restful posture be obtained in a practical manner. Maybe so, but I should like to challenge it just to see what it leads to.

A practical illustration of the forward resting principle may be helpful in such a discussion. I've made myself a rather crude rest for the head and shoulder with this thought in mind. I made it to use in traveling, but I have been too



"A practical demonstration of the forward resting principle"

busy to refine it beyond its first crude stage. I have, however, clearly in mind how it can be rearranged to provide a very light, portable, compact unit with deflatable rubber pillows that could easily be taken along in travels for any distance. Let me first describe the contraption that I have made.

It consists of three pieces of wood nailed together as shown in the sketch, with a leg for ground support. By placing four pillows, two on the front projections to rest the head on and one under each shoulder on the rear projections, and bringing the load from the center table down to the ground through a single leg, a very restful posture is obtained. You have to experience it to find out just how restful and soothing it is. The leg should be so arranged on the center table that the weight of the head will tip the shoulder supports upward so that a slight stretching of the vertebrae will result.

Looking at the sketch will show you how much of the body load is carried directly to the ground, freeing the vertebrae of most of the load and putting some of them under tension, which is a refreshing change from the relentless pressure they are normally under. Resting on this "front-chair" is one of the most relaxing experiences you have ever had. I feel certain that some of the principles employed in this front-chair may be very useful under certain circumstances.

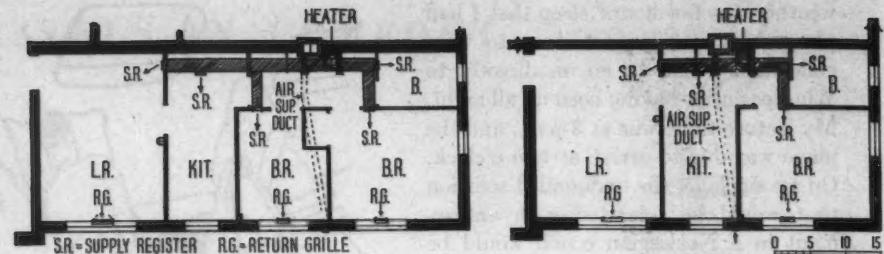
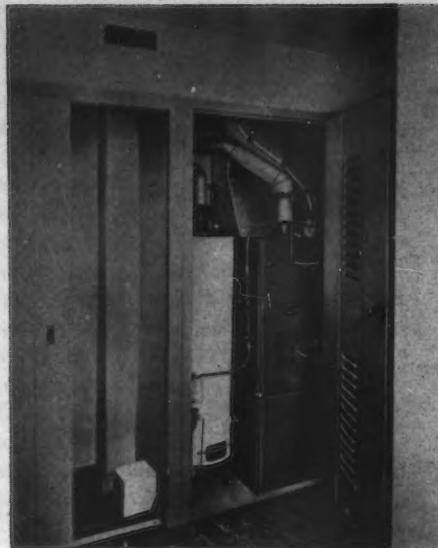
It may be that chairs can be made to sit in, either as back-chairs or front-chairs. Be that as it may, I think that it's high time that railroad and airplane companies study this whole situation from a fresh viewpoint so that "setting around" on a long trip can be a pleasure rather than the slow torture it now is.

The last sketch shows a more dignified and maybe a more practical travel aid. Again shoulders and head are mechanically supported, by-passing the vertebrae.

To conclude, then, giving a thought to your body as a structure is worth while in many ways. Try it.



"More dignified, and maybe a more practical travel aid"



Above: floor plans of the types of suites in Parkway Gardens apartments, Parma, Ohio, each of which has its own warm air furnace. Left: furnace occupies area only 16 by 23 in. and is housed in closet along with the hot water heater



EACH APARTMENT HAS A FURNACE

William H. Harris, Architect

Dwyer Construction Co., Builder

WHEN completed this year, the Cleveland Parkway Gardens will contain a total of 1219 three- and four-room suites, each equipped with its own central-fired, automatic warm air system. Both installation and operating economy, as well as tenant-controlled comfort, were deciding factors.

Since each heating plant will be controlled by its own thermostat and served by its own gas line, piped through a meter assigned to the tenant, the tenant

can use the heat just as he wants it. Management will make necessary repairs and take care of normal maintenance.

The 40,000 Btu input furnace for each apartment occupies only 16 by 23 in. of floor space, so it is easily housed in a small closet along with the water heater.

Ducts suspended from the ceiling joists distribute heat to registers located on the high side of the walls. Space between the concrete floor of the apart-

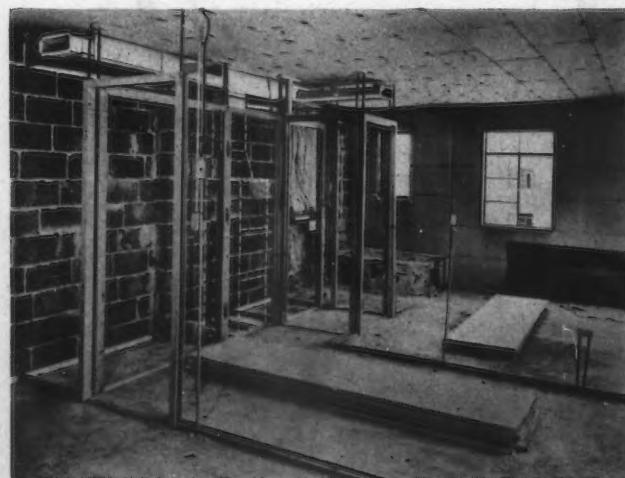
ment above and the ceiling of the apartment below is used as a return air plenum for the upper apartment.

Combustion air for the furnace and water heater is brought from the outside of the building through a 5 in. duct. A grille cap protects the inlet.

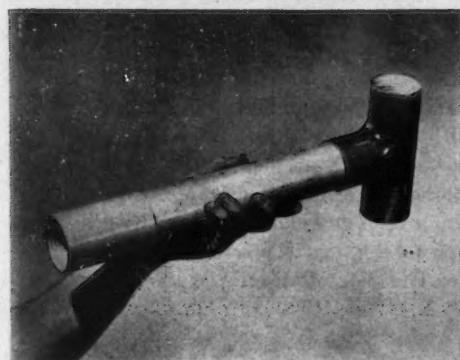
Due to special emphasis on a simplified heating layout, it was possible to design the distribution system for shop fabrication and for time-saving installation.

Skeletonized layout shows air distribution. Furnace (by dashed outline) delivers warm air to rooms through plenum and ducts

In basement suites, return air is brought back to furnace through return grilles under windows which lead into vitreous clay pipe



PRODUCTS for Better Building



Plastic pipe is made in a wide range of sizes, ranging from $\frac{1}{8}$ - to 12-in. A field installation of Carlon pipe is shown above, section of Glasweld below

Plastic Pipes

A wide variety of plastic materials is being adapted for the use of piping and tubing to carry liquids and gases—plastic piping of various attributes, sizes and colors. Industry had made great use of many types, both flexible and rigid, for their chemical resistance, light weight and ease of installation. They have been used in other fields for beer supply lines, gasoline lines, and to supply sea water to swimming pools.

Other recent applications have included domestic water supply lines for rural areas, pipes for gas, and for lawn sprinkler systems. The plastic chosen for each of these uses was picked because of particular characteristics (superior resistance to salt water, to certain soil conditions, etc.) which surpass those of

more conventional materials. Continued development and increased production may eventually lead to more general use in the building and housing field as a replacement for critical metals. Some of the pipes currently on the market include:

- **ACE Saran** pipe, tubing and fittings are said to have exceptional resistance to acids and other corrosive chemicals. They are especially recommended for the food and chemical processing industries. Actual uses have also included artesian well equipment, cold water drains on domestic refrigerators, gas fuel and vent lines, and domestic plumbing lines. The plastic is available in black only, and in moulded or extruded form. It has high impact strength. It may be threaded or heat welded at joints. Piping is made in $\frac{1}{2}$ - to 4-in. sizes, and in 10-ft lengths. A complete variety of fittings is available in sizes $\frac{1}{2}$ - to 2-in. Flexible tubing and flare-type fittings are stocked in $\frac{1}{8}$ - to $\frac{3}{4}$ -in. sizes and in 25-ft min lengths. Valves are made in $\frac{1}{2}$ - to $1\frac{1}{4}$ -in. sizes. American Hard Rubber Co., 11 Mercer St., New York 13, N. Y.

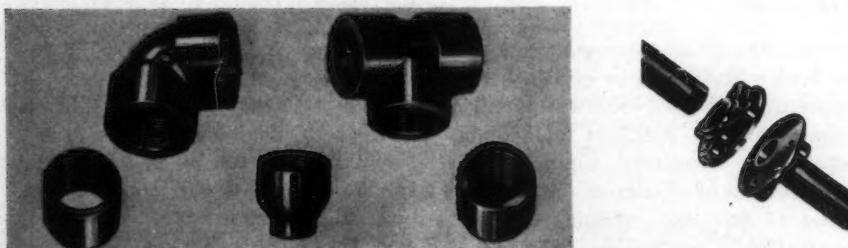
- **Mills-Plastic** pipe, tubing and fittings are also made of Saran. They have

similar qualities and are made in the same range of sizes as ACE Saran. This plastic is durable, and has good insulating qualities. It is cut with ordinary saws. It weighs about one-fourth as much as metal pipe. Elmer E. Mills Corp., 2930 N. Ashland Ave., Chicago 13, Ill.

- **Dow Saran-Lined Steel Pipe**, fittings and valves are said to have overcome supporting and temperature problems by using Saran as a lining material. The temperature limitations are generally confined within the range of minus 40 F and plus 194 F. The pipes can be used with all acids, alkalies and salt solutions, with the exception of a few of the less well-known organic solvents. Sizes available are 1- to 6-in. inclusive, with a 10-ft max length. The pipe may be cut and threaded on standard equipment. Distributors for the Dow Chemical Co.: Saran Lined Pipe Co., 701 Stephenson Bldg., Detroit 2, Mich.

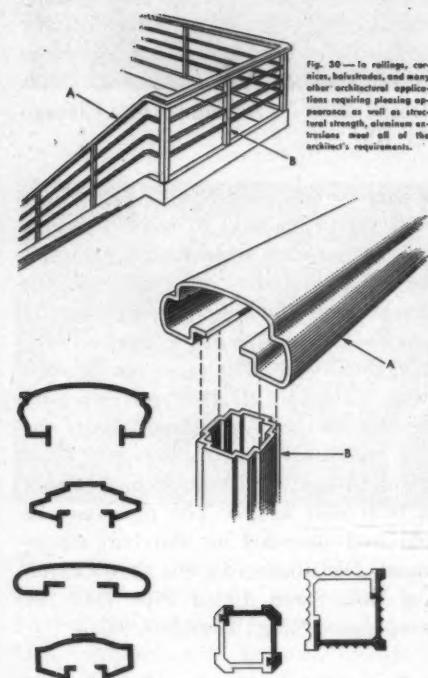
- **Glasweld** is a laminated tubing in which glass fibers in form of cloth, mat or tape are bonded with resins. It is made in two types: convolutely wrapped for structural tubing or piping; and

(Continued on page 166)



Plastic fittings of many types, shapes and sizes are available. The group above, left, is extruded of ACE-Saran by the American Hard Rubber Co. Above, right, is a Saran flange fitting made by the Elmer E. Mills Corp. Pipes and fittings are also made of conventional materials and lined with plastic, as in the Saran-lined steel flange at right, distributed by Saran-Lined Pipe Co.





Typical shapes of extruded aluminum balustrades and posts. Page from the manual *Designing With Aluminum Extrusions*, published by Reynolds Metals Co.

Extrusions

Designing with Aluminum Extrusions. The book's function is to explain basic engineering principles that will aid the designer to use extruded aluminum shapes most effectively. Contents include features of aluminum design, examples of effective extrusion design, manufacturing possibilities, shape design from the manufacturing standpoint, structural design considerations, fits and assemblies for mating extruded shapes, joint design, dimensional tolerances, choice of alloy and temper, fabricating properties, finishes, cost factors, indexes of tables and illustrations by subject and an itemized cross index. Available when requested on company letterhead. 138 pp., illus. Reynolds Metals Co., 2500 South Third St., Louisville, Ky.*

* Other product information in Sweet's File, 1950.

Concrete Forms

Masonite Concrete Form Preswood. Folder gives a simplified short specification for the use of form board to produce smooth surfaced concrete. Features of the method are discussed. Details and photographs show construction of flat slabs, walls, beams and columns. Types, sizes and physical characteristics of the available form boards are noted. A deflection chart is also included. 4 pp., illus. Masonite Corp., 111 Washington St., Chicago, Ill.*

Waterproofing Brickwork

Omicron Mortarproofing For Tight Brick Walls. Booklet discusses the use of a special mortar admixture to obtain waterproof brick walls. Features of the "O. M." admixture are described. A number of comparative tests on mortar with and without the admixture are covered with tables and photographs. Common causes of cracks in mortar joints are noted. Many photographs of buildings constructed with "O. M." mortar are also included. 16 pp., illus. The Master Builders Co., 7016 Euclid Ave., Cleveland 3, Ohio.*

Stainless Steel in Hospitals

Allegheny Metal in Hospitals. Booklet lists uses of stainless steel in the modern hospital in general, as well as in four specific departments (Service, Nursing, Surgical Departments, and Diagnostic and Treatment facilities). There is a four-page check list of stainless steel hospital applications. Summarized are the technology of the metal, its available forms and its fabrication. 34 pp., illus. Advertising Department, Allegheny Ludlum Steel Corp., 2020 Oliver Bldg., Pittsburgh 22, Pa.*

Electrical Wire Connectors

Solderless Connectors for Electrical Wiring. Bulletin No. 750. A pressure tool and fittings for solderless splicing

and terminating electrical wires is described. Installation instructions and ordering information are included. 4 pp., illus. Buchanan Electrical Products Corp., 1290 Central Ave., Hillside, N. J.

School Lighting

Guide To Lighting Educational Institutions. Booklet contains 34 lighting plans for school rooms, including areas for administration, teaching, research, sports, assembly and services. Photographs of the actual installations and sketches of the Holophane equipment used are given with each plan. Data are given on the watts per sq ft of floor area and the illumination levels as measured. There is also a brief and general section on principles of lighting. 52 pp., illus. Holophane Co., Inc., 342 Madison Ave., New York 17, N. Y.

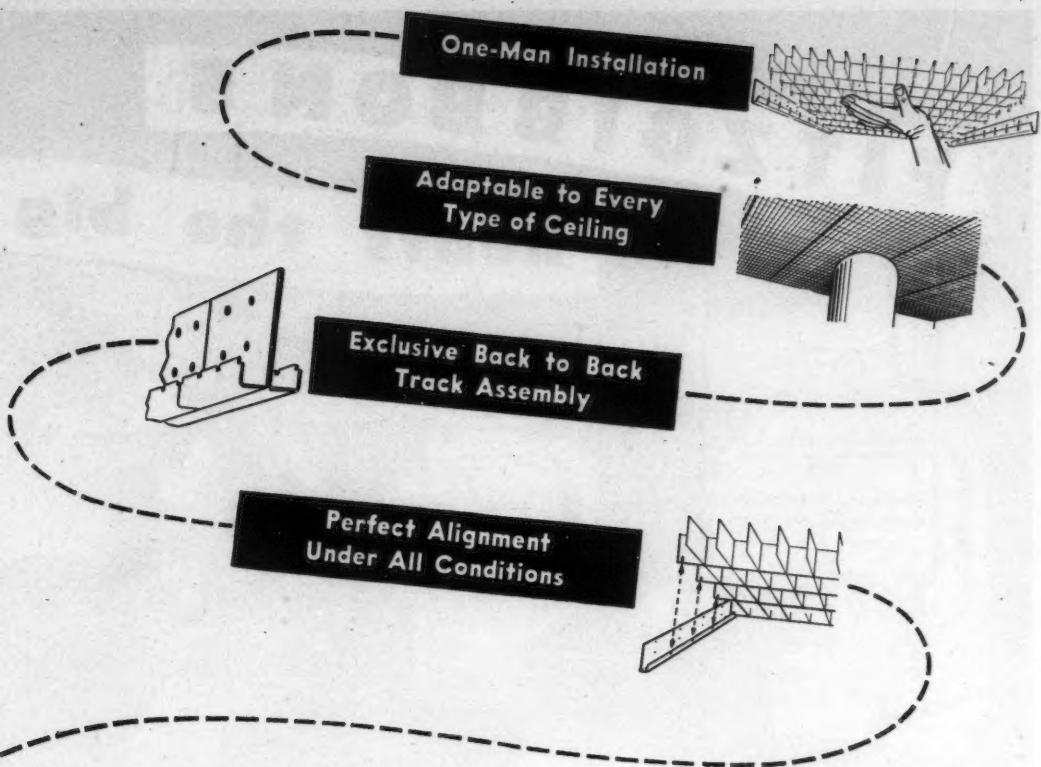
Carpeting Fasteners

The Secret of Wall-To-Wall Carpet Beauty. Folder describes the Smooth-edge tackless carpet installation. The carpet grippers are illustrated by sketches and photographs. Notes are given for use with concrete and wood floors. Pictures of typical installations are also included. 4 pp., illus. The Roberts Co., 1536 N. Indiana St., Los Angeles 63, Calif.*

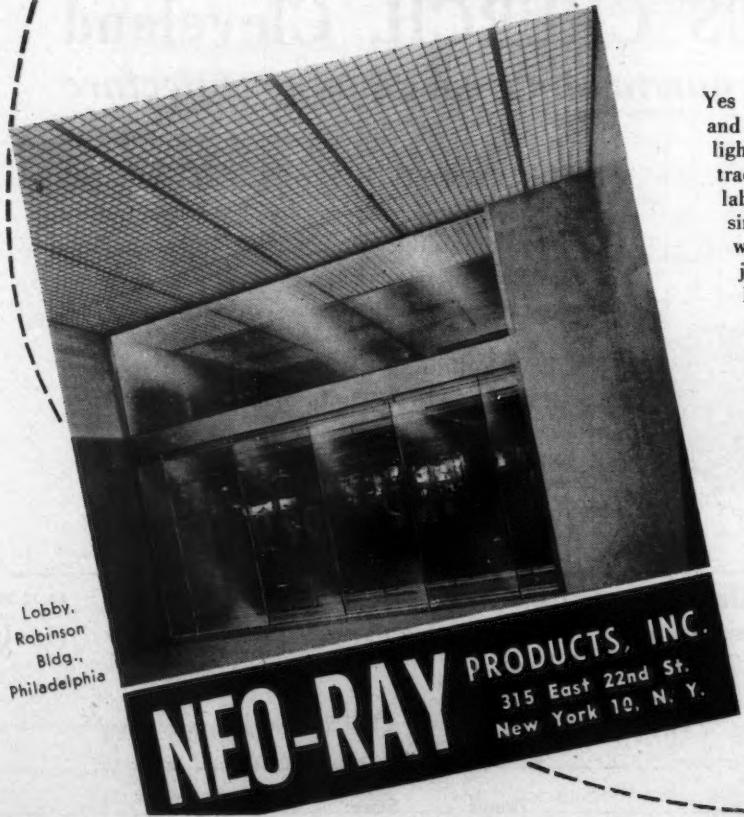
Aluminum Windows

Fleetlite Installation Suggestions. Folder describes an aluminum window which combines frame, sash, storm sash and screen in a single unit. Construction and operation of the window are discussed, and illustrated with many details. Installation details are included for constructions of brick veneer, concrete block, frame and solid masonry. A table of types and sizes of standard windows, and notes on rough openings required are also included. 6 pp., illus. Fleet Of America, Inc., 415 Dun Building, Buffalo, N. Y.

(Continued on page 180)



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31a
16



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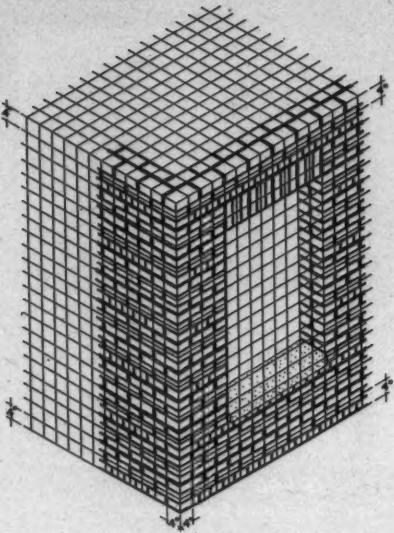
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MODULAR COORDINATION: 4

Prepared with the cooperation of Structural Clay Products Institute



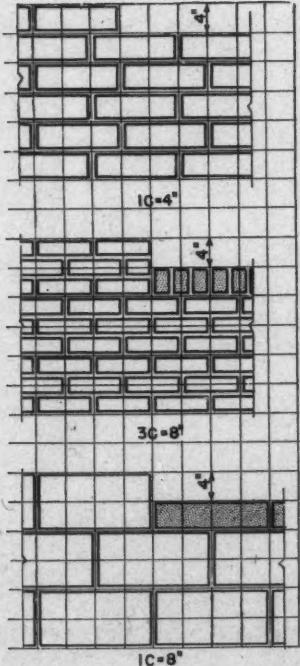
The three-dimensional grid above applies in all directions for openings

The preparation of working drawings, as well as preliminary drawings, is greatly simplified by the Modular Coordination system. Building layouts and elevations are drawn only to nominal dimensions. Actual dimensions needed on the job are given by assembly details. These are keyed to the layouts by reference to the 4-in. modular grid. With consistent grid placement, recurring details need be drawn only once. The same holds true for similar details, such as a series of windows, which vary in size by multiples of 4 in. The method also saves time in permitting change of specifications, and substitution of alternate materials for a detail, without redrawing the general layout sheets.

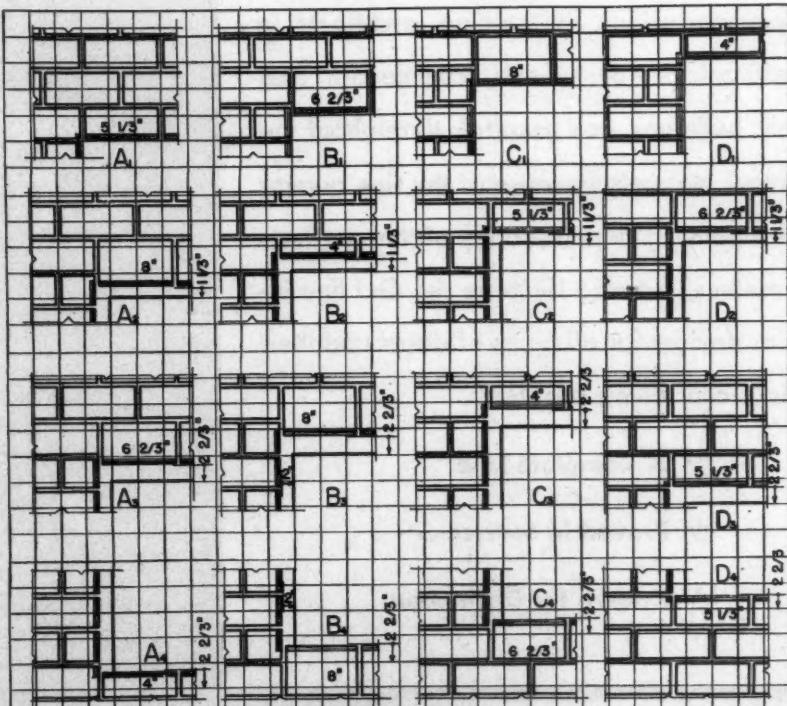
Opening details involve the coordination of many products — masonry facing and backup, windows, doors, trim, etc. Standard dimensions of masonry units manufactured for modular coordination are made in

4-in. multiples including half of a standardized joint thickness. This provides an interchangeability of parts to be selected. Non-modularized items require a specially worked out detail referencing them to the grid. Installation details are standardized by adopting a fixed difference between the size of the window and the nominal opening. The details should include sections through jamb, head and sill, as in the typical installation on Sheet 5. Each of these should show the edge of the nominal opening and the location adopted for the edge of the sash. This is generally taken as a minimum 2-in. surround to allow for window frames, heads and caulking spaces; a nominal space of 4 in. is left for sills. These details should also show the difference between the actual structural wall opening and the nominal opening.

Grid placement of jambs for openings should be similar on layouts, allowing a single detail to apply



Vertical flexibility for masonry openings is provided by 4-in. course height or by extra units



With 5 1/3- by 12-in. structural tile units, four extra-sized units can be used to provide 4-in. flexibility for the height of openings. These are shown above for square heads, recessed heads (1 1/3 and 2 2/3 in.), and for sills



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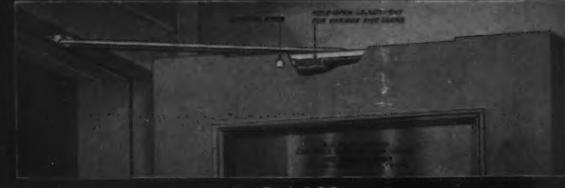


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G-J F-9
Door Holder
and Bumper



G-J FB-13
Dome Type
Door Bumper

G-J F-40
Plunger Type
Door Holder

MODULAR COORDINATION: 5

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to both sides. This need not hold true vertically, since the head and sill details are different. With flush jambs, when the exterior wall surface is on a grid line, jambs are normally on grid lines, and coincide with the grid opening, as in Detail A on Sheet 1 (November TSS). With jambs between grid lines, as in Detail B on the same sheet, the reference grid opening is 4 in. wider than the nominal masonry opening. With jambs recessed 2 in., the converse of the above is true. Because of this difference, the grid opening is often identified by a half arrow symbol.

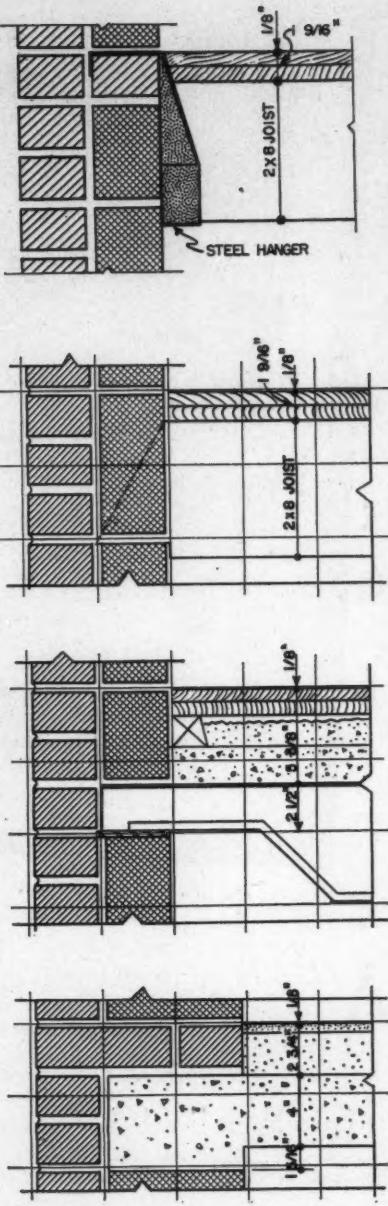
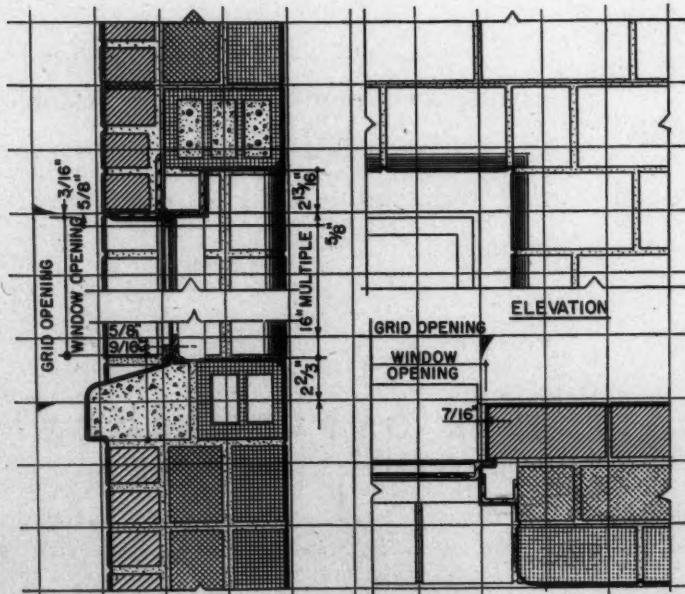
Flexibility in masonry wall and opening lengths and heights may be obtained by supplementary "closure" units at the openings or in the masonry field. (See details on Sheets 2 and 3, November TSS, and on Sheet 4 in this issue.) The masonry pattern can often be kept consistent by making wall lengths a multiple of $\frac{1}{2}$ the nominal masonry unit dimension when laid in $\frac{1}{2}$ bond, or $\frac{1}{3}$ for $\frac{1}{3}$ bond.

Floors vary in depth to meet structural requirements. Some portion, however, must be in a fixed relation to the grid. The A62 Guide recommends that the surface of fin-

ished floors be placed $\frac{1}{8}$ in. below the grid line (see details at right), to coincide with masonry joints, and to maintain a constant relation between the floor and the masonry openings for exterior doors. For wood frame construction, it is suggested that wood sub floors be placed on the grid line. Necessary adjustments in the many items of interior finish and equipment can be made at the junction with the ceiling.

CONCRETE MASONRY UNITS					
Nominal Sizes, Inches		Full Size			
Height	Length	Height	Supplementary Sizes		
Height	Length	Height	Lengths	Lengths	Lengths
2 $\frac{1}{2}$	8	2 $\frac{1}{2}$	6, 4		
3	8	3	6, 4		
		2	8, 6, 4		
4	12	4	10, 8, 6, 4		
5 $\frac{1}{2}$	12	5 $\frac{1}{2}$	10, 8, 6, 4		
		2 $\frac{1}{2}$	12, 10, 8, 6, 4		
		4	12, 10, 8, 6, 4		
6	12	6	10, 8, 6, 4		
		2	12, 10, 8, 6, 4		
		4	12, 10, 8, 6, 4		
8	12	8	10, 8, 6, 4		
		4	12, 10, 8, 6, 4		
8	16	8	12, 8, 4		
		4	16, 12, 8, 4		

For nominal sizes of brick and tile units, see sheets 2 and 3.



Left: typical modular details for a solid section metal window in a nominal 12-in. masonry wall. Above: typical modular floor details. These are, top to bottom: wood joist on steel hanger; wood joist notched to bear on masonry wall; steel bar joist with gypsum plank and wood screeds; and concrete slab formed down to bear on masonry course

ALOT of prospective clients in your community read this four-color ad in the October 28th *Saturday Evening Post*. They got an encouraging and reasonable answer to the question: "When should a fellow buy a house?"

They learned about the value, the comfort and the safety that *you* can design into a new house,

with the help of the Gold Bond line of related building materials.

The Gold Bond series of POST ads is planned to help overcome the effect of restrictions... and help convince "on-the-fence" home buyers that they should build now if they're ever going to!

You'll build or
remodel better with
Gold Bond

NATIONAL GYPSUM COMPANY
BUFFALO 2, NEW YORK

Fireproof Wallboards, Decorative Insulation Boards, Lath, Plaster, Lime, Sheathing, Wall Paint, Rock Wool Insulation, Metal Lath and Sound Control Products.

Read
your
story
in the

THE SATURDAY EVENING
POST

BIBLIOGRAPHY OF STANDARD CODES AND SPECIFICATIONS: 5

Prepared by William Henry Deacy, A.I.A.

As a supplement to the previously published bibliography sheets, the first two columns on this page list additional professional and trade organizations which issue manuals and other data useful to architects. The last column is an addendum to the list of specifications and codes frequently cited: bold type numbers refer to address lists; other numbers are code designations for each particular standard or specification.

ORGANIZATIONS

A

44. Air Conditioning and Refrigeration Masonry Assn., 717 Southern Bldg., Washington, D. C., Executive Vice President.

45. American Society of Civil Engineers, 33 W. 39 St., New York, N. Y., Secretary.

46. American Society of Refrigeration Engineers, 37 W. 39 St., New York, N. Y., Secretary.

47. American Walnut Manufacturers Assn., 616 S. Michigan Ave., Chicago, Ill., Secretary.

48. Appalachian Hardwood Manufacturers, Inc., 414 Walnut St., Cincinnati, O., Secretary.

49. Associated General Contractors of America, Munsey Bldg., Washington, D. C., Managing Director.

C

50. California Redwood Assn., 405 Montgomery St., San Francisco, Calif., Executive Vice President.

51. Convector Manufacturers Assn., 40 W. 40 St., New York, N. Y., Secretary.

52. Hardwood Dimension Manufacturer's Assn., Inc., Heyburn Bldg., Louisville, Ky., Managing Director.

53. Hardwood Plywood Institute, 600 S. Michigan Ave., Chicago, Ill., Secretary.

M

54. Mahogany Assn., Inc., 75 E. Wacker Dr., Chicago, Ill., Secretary.

55. Maple Flooring Manufacturer's Assn., 332 S. Michigan Ave., Chicago, Ill., Secretary.

56. Metal Window Institute, 1427 Eye St., Washington, D. C., Technical Director.

N

57. National Lime Assn., 927-15th St., Washington, D. C., Secretary.

58. National Association of Fan Manufacturer's, 5-208 General Motors Bldg., Detroit, Mich., Secretary.

59. National Oak Flooring Manufacturer's Assn., 814 Sterick Bldg., Memphis, Tenn., Secretary.

60. National Retail Lumber Dealers Assn., 515 Union Trust Bldg., Washington, D. C., Secretary.

61. Northeastern Lumber Manufacturers Assn., 271 Madison Ave., New York, N. Y., Secretary.

62. Northern Hemlock and Hardwood Manufacturers Assn., Oshkosh, Wis., Secretary.

63. Northern Pine Manufacturers Assn., 4329 Oakland Ave., Minneapolis, Minn., Secretary.

STANDARDS

Amer. Inst. of Steel Const. (9)

Code of Standard Practice for Steel Bldgs. and Bridges (Rev. of Dec. 1, '46)

Spec. for the Design, Fabrication, and Erection of Structural Steel for Bldgs. (Rev. of June 1949)

Housing and Home Finance Agency (43)

Performance of Masonry Chimneys for Houses. (Technical Paper No. 13)

Modular Coordination — What is it? How does it work? Will it help reduce housing costs?

U. S. Department of Commerce Commercial Standards (27)

Blinds, venetian, wood (61-37 CS)

Calking, lead (94-41 CS)

Closet lining, aromatic red cedar (26-30 CS)

Convector, steam and hot-water, method of testing and rating (140-47CS)

Doors (entrance) factory fitted, Douglas fir (91-41 CS)

Doors, pine (ponderosa) (120-48 CS)

Furnaces, forced air, solid-fuel-burning (109-44 CS)

Furnaces, gas, floor, gravity-circulating type (99-42 CS)

Furnaces, oil burning, floor (equipped with vaporizing pot-type burners) (113-44 CS)

Hardwood wall paneling (74-39 CS)

Hardwood Plywood (35-49 CS)

Insulating Board, structural fibre (42-49 CS)

Insulation, wood fibre blanket (160-49 CS)

Mineral wood products, all types testing and reporting (131-46 CS)

Pipe, bituminized-fibre; drain and sewer (116-44 CS)

Plumbing Fixtures, enameled cast iron (77-48 CS)

Plumbing Fixtures, formed metal enameled sanitary ware (144-47 CS)

Shingles, wood (31-38 CS)

Tiles, wall, polystrene plastic, and adhesives for application (168-50 CS)

Veneers; walnut (64-37 CS)

National Bureau of Standards Simplified Practice Recommendations (27)

Aggregates, coarse (crushed stone, gravel and slag) (163-48 SPR)

Asbestos paper and asbestos millboard (19-37 SPR)

Conductors, copper (for building purposes) (180-41 SPR)

Doors, kalamein frames and trim (83-28 SPR)

Partitions (metal) for toilets and showers (101-40 SPR)

Heating a great No



The formal opening of Our Lady of Lourdes Hospital on July 1, 1950, signalized the completion of a \$4 million project which is the last word in hospital construction and equipment.

Steam was selected for the heating of this great institution—steam harnessed and brought under control with a Webster Moderator System of Steam Heating. An Outdoor Thermostat adjusts the supply of steam with every change in temperature. Prevents wasteful overheating. Maintains comfort conditions during mild weather or on the severest winter day.

Our Lady of Lourdes Hospital, Camden, N. J.
At left: corner of a typical semi-private room.



New Hospital

Webster System Radiators, taking no useable room space, were engineered into sanitary enclosures integrated with the window construction. Metal front provides easy access if necessary. Each convector has a built-in radiator trap and valve, permitting 100% heat shut-off—no dampers are needed.

Operation of the institution is under the direction of the Sisters of the Third Order Regular of St. Francis. Included in the Hospital is the Bishop's suite and a chapel seating 250.

An important factor in the success of Webster Heating installations is the friendly service and close cooperation of the authorized Webster Factory Representative. Call him or write us for his name.

Address Dept. AR-12

WARREN WEBSTER & CO., Camden 5, N. J.

Representatives in Principal Cities
In Canada, Darling Brothers, Limited, Montreal.

WEBSTER
MODERATOR
SYSTEM
OF STEAM HEATING
"Controlled by the weather"

ARCHITECT:

Paul C. Reilly, New York.

BUILDER:

George A. Fuller Company, New York.

CONSULTING ENGINEER:

Sears & Kopf, New York.

HEATING CONTRACTOR:

Daniel J. Keating Co., Philadelphia.

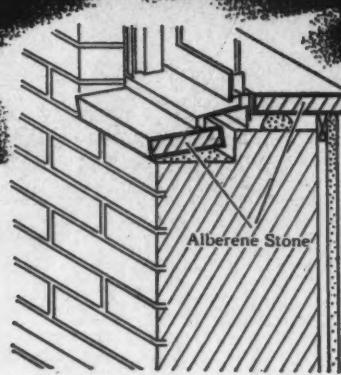
Chief Engineer A. D. Bradley uses master key for heat shut-off at individual radiators. Shown at bottom of page is one of 14 solariums.



window sills and stools

by

ALBERENE



- They never chip, scale, or split.
- They're blue-gray — harmonize with any color.
- They're free of maintenance costs — for all time.

Alberene stone may also be used on copings, spandrels, exterior and interior trim. Write today, on your own letterhead, for full data and samples to —

ALBERENE STONE CORP.

419—4TH AVENUE • NEW YORK 18, N. Y.

PRODUCTS

(Continued from page 155)

spirally wrapped for piping. The products are claimed to have the strength of steel, to be rust- and corrosionproof, and to have good electrical insulating qualities. It has high impact resistance, and may be used in temperature ranges from minus 60 F to plus 275 F. It has been used as piping in oil and chemical processing industries, and as tubing for building, electrical and allied fields. It is also suited to outdoor and marine uses. It is made in sizes from $\frac{1}{4}$ - to 6-in. when convolutely wrapped, and to 12-in. when spirally wrapped. The maximum length is 30 ft. Fittings are made from 1- to 6-in. ID. It can be supplied in a wide range of colors. Joints are made by threading, plastic flanges, or tapered joint sections. United States Plywood Corp., 55 W. 44th St., New York 18, N. Y.

• *Carlon Plastic Pipe* is another type, which is claimed to be durable, light in weight, and guaranteed against rot, rust and electrolytic corrosion. It can be used for drinking water and drainage systems, ventilating and cooling lines, wiring conduit. It is made in a flexible type, with diameters to 6-in., lengths to 400-ft, and in rigid type in 20-ft lengths and diameters to 8-in. Carter Products Corp., 10403 Meech Ave., Cleveland 5, Ohio.

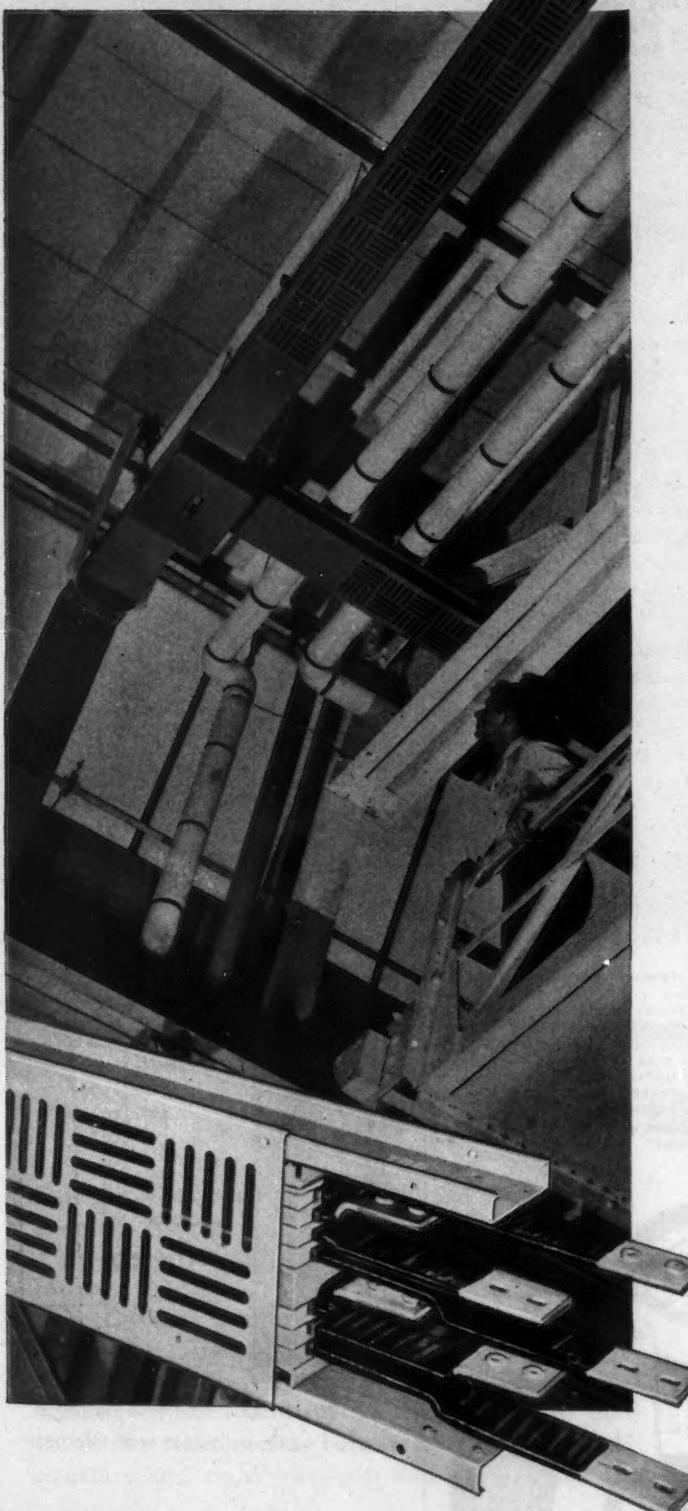
Overhead Unit Heater

The *Norman Three-Sixty Overhead Forced Convection Heater* combines heat distribution in a 360 degree radius with forced exhaust. This is claimed to equal-



Round convector heats in all directions
(Continued on page 168)

YOU CAN BE **SURE**.. IF IT'S
Westinghouse



"Low Impedance BUS DUCT for the Long Run"

"We've found Westinghouse low impedance bus duct to be ideal for long transmission runs in a plant," say Mr. R. W. Holicky, Chief Engineer, and Mr. W. F. Nock, Field Supervisor, of the Doan Electric Company in Cleveland. "It's easy to handle and no trouble at all to hook up."

Let bus duct answer *your* secondary power distribution problems—whether you're building or expanding. Low impedance bus duct provides required voltage right out to the end of your system . . . keeps lights, motors, and other equipment functioning at top efficiency. In addition, it packs greater carrying capacity into a smaller space than either conduit or wire. And bus duct means reduced maintenance.

Completely pre-fabricated sections can be installed up out of the way of plant traffic—quickly and easily. What's more, the sections can be disassembled immediately and rushed to new locations with no wiring mess to unravel.

Ask your Westinghouse representative for the facts on dollar and space-saving bus duct. Descriptive bulletin B-4271 contains further information. Westinghouse Electric Corporation, P. O. Box 868, Pittsburgh 30, Pennsylvania.

J-30042



Westinghouse
BUS DUCT

Where should glazing compound be specified?



... as you probably know there is often a fine decision as to whether to specify putty or glazing compound. In all D-P Putties you will find only the finest ingredients used and these will be faultlessly compounded, but there are always limitations even in the application of the best putties. Some of the most common reasons for selection of D-P glazing compound rather than D-P Putty are outlined briefly below:

ANSWER: In brief, Glazing Compounds should be specified where severe vibration conditions are encountered or where longer lasting service is required or where low maintenance cost is desired as detailed below:

First: D-P Glazing Compounds are elastic. They set, but remain permanently elastic so as to expand and contract with bonding surfaces in temperature extremes. They also have better working qualities in all temperatures above 35°F.

Second: Because D-P Glazing Compounds remain elastic they stand severe conditions such as heavy moisture and extreme vibration. For example: you would specify a D-P Compound for application in buildings or factories where heavy machinery vibrates the building or where the buildings are near heavily-travelled railroad tracks. Laundries, bakeries and canneries are also buildings requiring a glazing compound.

Third: Where low maintenance is required D-P Glazing Compounds should also be specified. These glazing materials reduce replacement cost by facilitating the cleaning of sash after lights are broken. D-P Glazing Compounds also last longer than most putties since they are permanently plastic and stick tight for years. Always specify D-P Glazing Compounds for the finest, longest lasting job under the above mentioned conditions and for easy application and lowest maintenance on any job anywhere.

CHECK THE ABOVE VITAL GLAZING DETAILS WHEN YOU SPECIFY AND ALWAYS PLAY SAFE

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COMPOUNDS FOR STEEL OR
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WOOD AND METAL SASH . . . FED
SPEC. AND SPECIAL USE
- CAULKING COMPOUND
- WHITE WONDER GENERAL PURPOSE
TILE CEMENT

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Makers of Quality Putty Products Since 1867
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Architectural Engineering

PRODUCTS

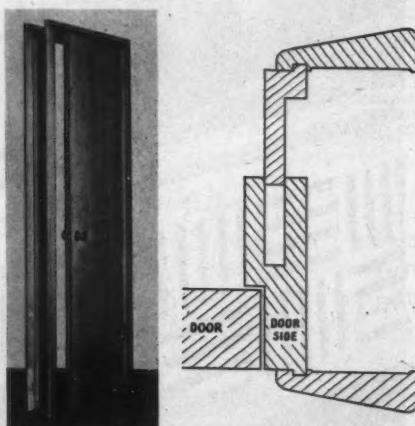
(Continued from page 166)

ize temperature throughout the room, and to establish constant air motion within low acceptable velocity limits.

The unit has a shallow depth to allow head room in low ceilinged areas. The sides are fitted with seven diffuser rings. The return air intake is in the bottom of the unit. The burner is of the single-port, self-piloting type. Controls include a shut-off safety pilot, diaphragm gas valve, fan and limit control. The heater is finished in green crackled enamel with metal trim, and has a $\frac{1}{6}$ h.p. ballbearing type motor. The low velocity impeller is said to give quiet air distribution. Norman Products Co., 1150 Chesapeake Ave., Columbus 12, Ohio.

Adjustable Prefabricated Door

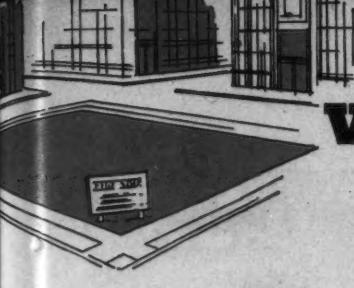
The Redi-Dor, a prefabricated door and jamb unit, is designed to eliminate sawing, fitting and hanging on the job. The units are made in two sections for installation after walls are completely finished. One part, with a pre-hung door, is set into one side of the wall; the other



Two-section door frame is installed in finished walls, adjusts to wall thickness

part is set on the opposite side. The two sections slide together, and adjust to any wall thickness. A special clamp is used to secure the door while in transit,

(Continued on page 170)



Vacant Lot Today...



Hospital Tomorrow



When Speed is the Need...

Use CECO Open-Web Steel Joists

One day you pass a new building in the making—ground is broken—foundations are in. Then, in just a short, short time, where once there was a vacant lot, there stands a gleaming hospital, spick-and-span new. Chances are it was constructed with Open-Web Steel Joists, for that's the fastest way ever to build. There's no temporary formwork necessary . . . nothing to take down later on. Open-Web Steel Joists are self-centering . . . are placed on the wall structure and right away rib lath can be laid and

concrete poured to form the floor. And while all this is going on, other building trades can be on the job doing their special work such as installing steel windows, plumbing and heating. So, when speed gets the call, specify CECO OPEN-WEB STEEL JOISTS. They are fabricated to exact size, come to the job tagged, ready to install . . . provide low cost fire resistive structures. Ceco assures you fast service from five plants: Birmingham, Chicago, Houston, New York and Wheeling, W. Va.

CECO STEEL PRODUCTS CORPORATION

General Offices: 5601 West 26th Street, Chicago 50, Illinois

Offices, warehouses and fabricating plants in principal cities



**CECO
STEEL**®

In construction products CECO ENGINEERING makes the big difference

PRODUCTS

(Continued from page 168)

and to hold the frame in line with the door during installation. The method is claimed to save from 3 to 5 hours of installation time per door.

The doors are 6 ft 8 in. high and 1 3/8 in. thick. Widths run from 18 to 32 in. in 2 in. intervals. Widths of 34 and 36 in. are available on special order. The units may be obtained in a variety of

woods, door and trim styles, and with a choice of hardware for different uses. Wm. R. Lutze Co., 18 Bergen St., Brooklyn, N. Y.

Swedish-American Furniture

An excellent new line of chests and tables is the result of collaboration by American designers and Swedish craftsmen. The 40 pieces which make up the line were designed by Edmond J. Spence for The Walpole Co., Inc. The furniture is manufactured in Sweden by 16 factories, each of which specializes in a



Well designed chests have fine construction, may be used singly or in groups



MEN'S BAR, CINCINNATI CLUB

more revenue from space with Van-built equipment

- Many hotels and clubs are looking for more profit. That's what makes this experience of the Cincinnati Club so interesting. They transformed a service kitchen into a high revenue department . . . the above-illustrated new men's bar. Also with Van's help they increased their banquet capacity by 1200 seats.
- If you are planning food service improvements to make your clients' cash registers ring oftener, make full use of Van's century-accumulated skill. Ask for Van's book showing illustrations of installations like Van made recently at the Cincinnati Club.

The John Van Range Co.

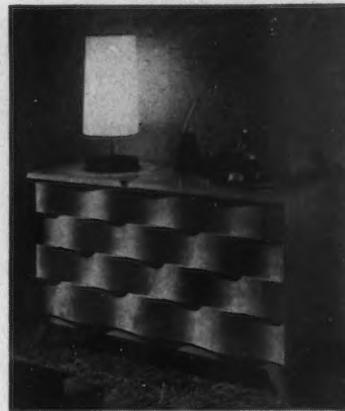
EQUIPMENT FOR THE PREPARATION AND SERVING OF FOOD

DIVISION OF THE EDWARDS MANUFACTURING CO.

Branches in Principal Cities

429 CULVERT STREET

CINCINNATI 2, OHIO



particular type of furniture construction. The prices are comparable to American-made furniture of like quality.

The pieces are made of Swedish birch, in pale or medium blond finishes. Several have inlay strips of birch in contrasting grain, or of sycamore wood. Hardware has been eliminated on some of the units; others are fitted with specially designed Swedish-made pulls. Items in the line include dressers, cabinets, desks, dining tables, and many types of coffee, lamp and occasional tables. The Walpole Co., Inc., 524 W. 43rd St., New York, N. Y.

Decorated Tiles

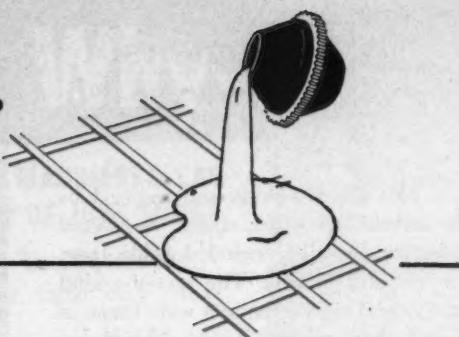
An exhibit of ceramic tile fireplace facings and wall coverings by Warner Prins, held at the Architectural League of New York, featured one-of-a-kind tiles in contemporary designs and textured effects. The designs were executed in a painted underglaze, with a wide variety of color combinations and techniques. Motifs included abstract shapes, floral patterns, pictorial scenes, figures, and caricatures.

Repeat tiles, which were more subdued in color and emphasized all-over textured effects, also were shown. All

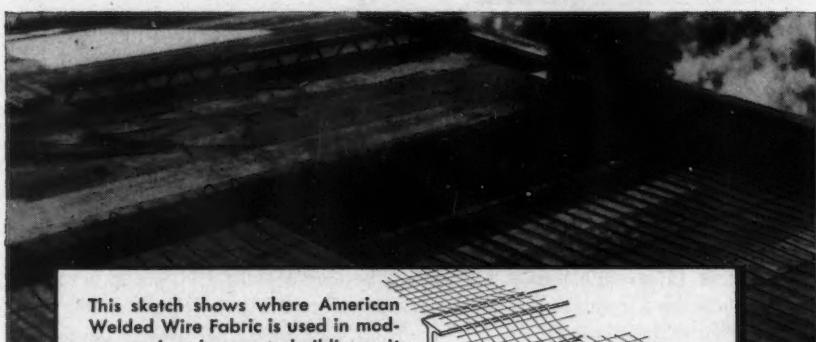
(Continued on page 172)

For steel and concrete buildings...

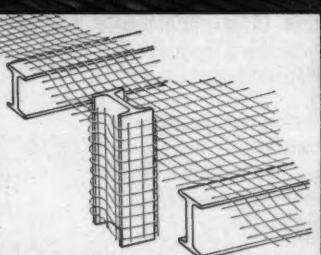
American Welded Wire Fabric



This apartment building is typical of modern steel and concrete construction. In floors, walls and ceilings, on beams, girders and columns, the continuous reinforcement of American Welded Wire Fabric keeps concrete in place, prevents cracking, helps strengthen structural members.



This sketch shows where American Welded Wire Fabric is used in modern steel and concrete buildings. It reinforces walls, floors and roofs, can be draped over beams and girders and wrapped around pillars. Many uses of concrete in irregular shapes are made practical by American Welded Wire Fabric reinforcement.



AMERICAN Welded Wire Fabric reinforcement has been used extensively in building construction. Wrapped around structural steel members, it fortifies the concrete against cracks caused by stresses and strains due to deflection of the structural members, normal temperature changes, and extraordinary temperature variations accompanying fire.

This fabric reinforcement possesses adequate tensile strength. It is easily shaped to structural steel. It comes in rolls and sheets, aids speedy construction. Structural steel beams, when wrapped with Welded Wire Fabric and enclosed in concrete fireproofing, are usually designed as composite beams.

Its adaptability, efficiency and economy have made American Welded Wire Fabric the most widely used reinforcement for concrete. You will find it in floors, walls, roofs and ceilings of all sorts of structures, in highways, sidewalks and driveways, in tunnels, bridges and approaches.

U·S·S American Welded Wire Fabric is available in every locality from jobbers' and dealers' stocks — supplemented by prompt mill shipment to identified projects.

When you are planning any kind of concrete construction, our technical staff will be glad to supply complete data on specific designs and standard styles of fabric. Write to our nearest sales office today, you incur no obligation.

AMERICAN STEEL & WIRE COMPANY
GENERAL OFFICES: CLEVELAND, OHIO

COLUMBIA STEEL COMPANY, SAN FRANCISCO
PACIFIC COAST DISTRIBUTORS

TENNESSEE COAL, IRON & RAILROAD COMPANY
BIRMINGHAM, SOUTHERN DISTRIBUTORS

UNITED STATES STEEL EXPORT COMPANY, NEW YORK

Every type of concrete construction needs



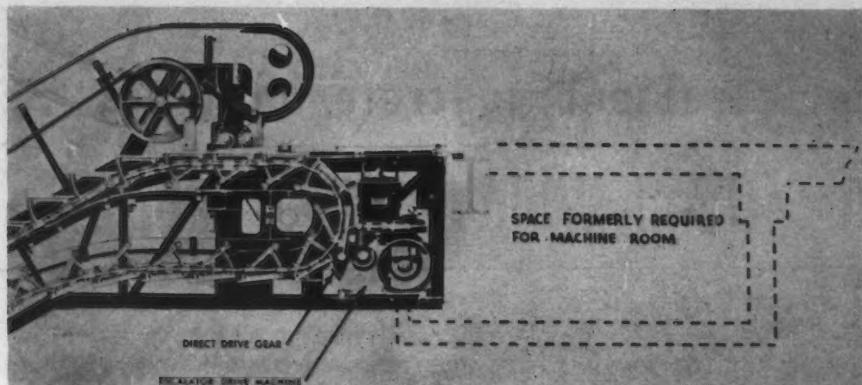
AMERICAN WELDED WIRE FABRIC
reinforcement

UNITED STATES STEEL

PRODUCTS

(Continued from page 170)

the tiles are washable and impervious to smoke and other stains. Suggested uses for the tiles included table tops, inserts and murals. The one-of-a-kind and repeat tiles come in a wide range of prices. Any original design desired can be obtained on special commission. Walter Prins, 36 E. 22nd St., New York 10, N. Y.



Drive machine fabricated in escalator-truss eliminates need for separate machine room



FERALUN SAFETY TREADS

"INSTALLED IN 1923... STILL GIVING SATISFACTORY SERVICE TODAY"

They planned well for safety and for durability—those who were responsible for these Feralun* safety treads—installed when this RCA Victor building was erected in 1923. A quarter century of resistance to wear under the many thousands of feet that have gone up and down them since Calvin Coolidge first entered the White House! A quarter century of underfoot safety, too, on Feralun's non-slip surface! And, as the photograph shows, these same treads can still be counted on for many more years of maintenance-free service—and safety.

Examples like this show why architects, engineers and builders insist on "Feralun" treads, nosings and plates. Made of cast iron with wear-resistant abrasive particles embedded in walking surfaces, "Feralun" provides a sure-footed "grip" that keeps feet from slipping—and wears and wears. The coupon below will bring you full information on "Feralun." Send it today.

*Also available in Bronze—(Bronzalun),
Aluminum—(Alumalun), and Nickel Bronze—(Nicalun).®

AMERICAN ABRASIVE METALS CO.
IRVINGTON 11, N. J.

AMERICAN ABRASIVE
METALS CO.
470 COIT STREET
IRVINGTON 11, N. J.

Gentlemen: Please send me full information on Feralun.

(AR 12-50)

NAME TITLE
COMPANY
ADDRESS
CITY STATE

Escalators

A new packaged 48-in. wide escalator, called the *Free-Flow*, has been introduced by the Otis Elevator Co. to supplement its previous line of packaged and special made units. The unit will accommodate two adults riding side by side on the same step, and will transport 8000 persons per hour. The new escalator brings out the economies of the previous, narrower, 32R unit; placement of the driving machine in the truss of the escalator eliminates the machine room formerly required with large-capacity units. This gives considerable saving in costs by permitting the driving mechanism to be mass produced and factory assembled, and by reducing building costs and alterations.

Design and engineering features are also similar to the 32-in. wide model, including an aluminum track system, rubber rollers for noise reduction and pinch-proof handrails. Variable rises are available, up to a 23 ft maximum. Otis Elevator Co., 670 Fifth Ave., New York 19, N. Y.

TV Master Antenna System

The *Jerrold Mul-TV System* is said to make it possible to operate 400 television sets, or more, from a single antenna. Picture and sound quality are said to be excellent. There is no interference between sets. The master system is designed for use in apartment houses and hotels.

The system has separate directional antennas, one for each station. All are usually mounted on the same mast. They are cut to correct length for each channel and connected by separate lead-ins to a master control amplifier unit. This unit includes 6-tube plug-in channel amplifier strips for each channel and provides a booster for the signal. There are separate gain controls for

(Continued on page 174)

THIS

Is Why-

PATENTED
U. S. Patent Nos.
2,184,113
2,457,250
2,457,056

ALSO AVAILABLE IS THE
MACOMBER DOUBLE V JOIST
WITH NAILABLE STEEL BOT-
TOM CHORD FOR ATTACHING
ANY CEILING MATERIAL.

YOU'LL FIND THE MACOMBER TAG
ON THE MAJORITY OF JOBS TODAY

NAILING top lath to Macomber V
Bar Joists is faster than any other
method.

Slab centering solidly anchored pre-
vents deep pockets of wasted con-
crete between joists.

Design information for spans, 4 to
40 feet in Joist Catalog.



TO SAVE YOU MONEY

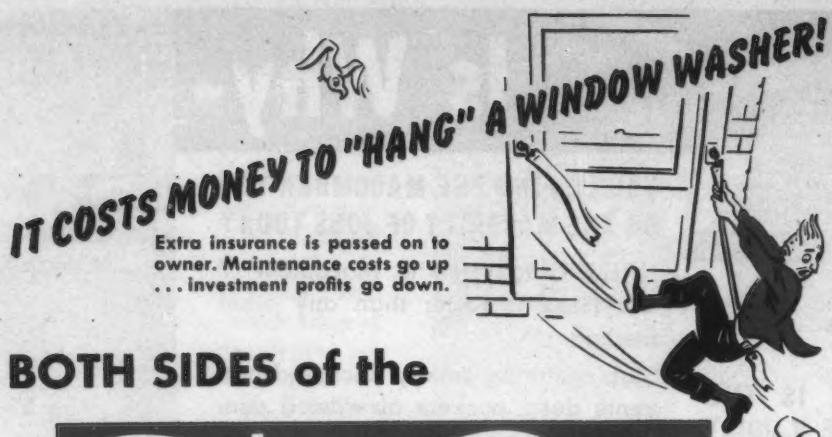


MACOMBER • INCORPORATED
CANTON, OHIO

IN CANADA, SARNIA BRIDGE CO., LIMITED, SARNIA, ONT.
IN MEXICO D. F.—MACOMBER DE MEXICO S. A. CEDRO 500

V BAR JOISTS • LONGSPANS • BOWSTRING TRUSSES • STEEL DECK





BOTH SIDES of the

Sealuxe BROWNE
"Folding-Flue" Windows

clean from the INSIDE!

Other SEALUXE-BROWNE values . .

- 100% controllable, draft-free ventilation. When slightly bowed, a vertical V-flue lets fresh air in and foul air out without drafts.
- Force fit against resilient wool felt shuts out dirt, dust, wind, water and traffic noises. Laboratory tested.
- Stream-lined to let in more light; set off any architectural treatment.
- Fold at finger-tip pressure. Stay put under normal wind pressure.
- No metal-to-masonry contact. Resist tarnish, rust and corrosion.

OTHER SEALUXE PRODUCTS

WINDOWS—Picture, Store Front, Commercial and Monumental Casement, Therme (insulated) • SOLAR CONTROLS—Fins, Canopies, Shades, Louvers • BUILDING ACCESSORIES—Pilasters, Spandrels, Friezes, Trim • ENTRANCE ACCESSORIES—Building Directories, etc. • DOOR ACCESSORIES • CROWD CONTROL EQUIPMENT. For more information you are invited to clip and mail coupon below or see our catalog in Sweet's Architectural File.

SEALUXE-Engineered Products are



Employers Casualty Bldg.
George L. Dahl, Arch.
Dallas, Texas

BROWNE Windows throughout. SEALUXE—Engineered Spandrels. Heavy, extruded aluminum SEALUXE Pilasters conceal air conditioning ducts, water and gas pipes and electrical conduits.

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DISTRICT SALES OFFICES, AGENTS AND DISTRIBUTORS IN ALL ARCHITECTURAL CENTERS . . .



Architectural Engineering

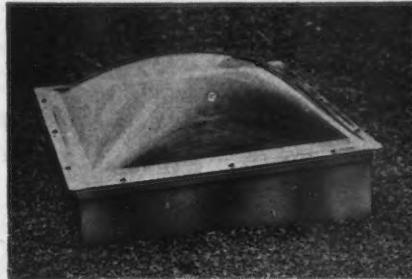
PRODUCTS

(Continued from page 172)

each station to balance signal strengths. An output network mixes the amplified signals and feeds them through antenna distribution outlets to any desired number of receivers. The system will accommodate TV sets of any make or model. Jerrold Electronics Corp., 121 N. Broad St., Philadelphia 7, Pa.

Prefabricated Plastic Skylights

A lightweight, prefabricated skylight, called *Wascolite*, utilizes a Plexiglas dome attached to a simple copper frame to eliminate cross members and wire reinforcements. The unit is neat and simple in exterior appearance; from the interior, nothing is visible but the opening. The skylights are said to be strong, shatterproof and watertight. The plastic



Plastic skylight installed in roof simplifies daylighting of interior spaces

is claimed to have approximately double the insulating qualities of glass the same thickness. Three types of plastic are available: one admits ultra violet rays, one absorbs them, the other is white translucent for light diffusion.

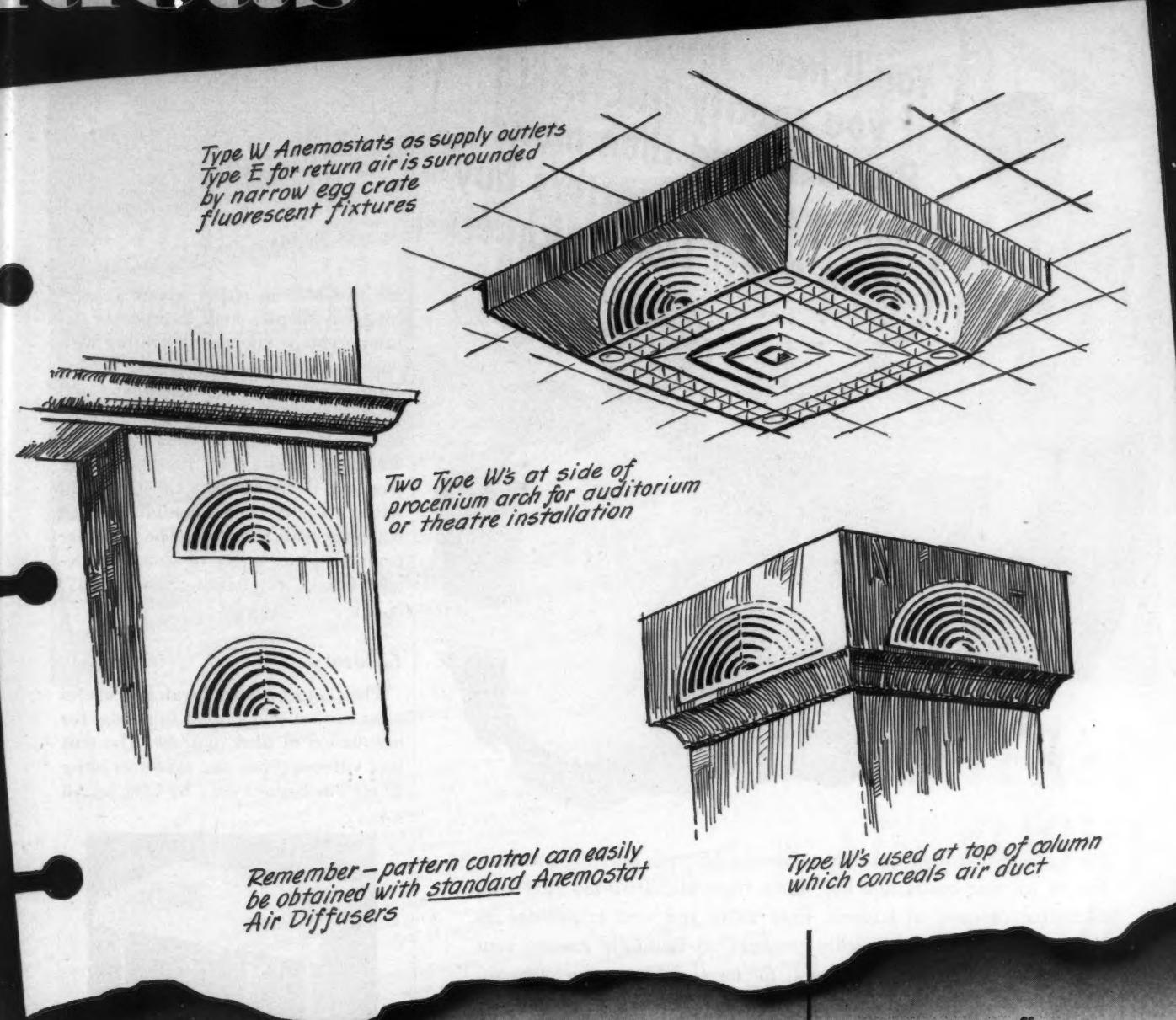
The frame is said to be easy to install. Louvers or ventilators may be fitted in the side. Units are available in ten sizes, ranging from 20 by 20 in. to 100 by 100 in. Wasco Flashing Co., 268 Elm St., Cambridge, Mass.

Diffuser and Light Combination

The *Agilair Diffuser-like Fixtures* combine air diffusing vanes and a light fixture in a single unit. The ceiling fixtures

(Continued on page 176)

ideas for using ANEMOSTAT AIR DIFFUSERS



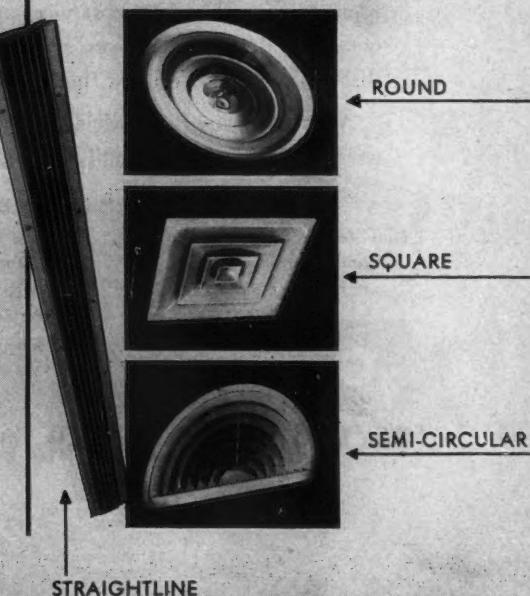
Anemostat Air Diffusers offer unlimited design possibilities. They can be used in regular, acoustical and egg crate ceilings . . . combined with all types of lighting fixtures . . . in commercial, industrial and home applications. Anemostat Air Diffusers provide uniform diffusion throughout the entire conditioned area. They eliminate harmful drafts, stale air pockets and equalize temperature and humidity. New Selection Manual contains complete application and specification data. Write for your copy.

"No air conditioning system is better than its air distribution"

ANEMOSTAT®
DRAFTLESS Aspirating AIR DIFFUSERS

ANEMOSTAT CORPORATION OF AMERICA, 10 EAST 39th STREET, NEW YORK 16, N. Y.
REPRESENTATIVES IN PRINCIPAL CITIES

ANEMOSTAT offers
maximum design possibilities
because only Anemostat Air
Diffusers come in all these shapes





It's to your advantage not only to specify Michaels building products, but to see that contractors buy direct from Michaels. You deal with a reliable concern, in business since 1870, and well known for its ability to produce high-quality products, to faithfully execute your most exacting specifications, and to meet delivery commitments. Michaels building products of stainless steel, aluminum, bronze and other metals have earned an enviable reputation among architects and builders. And in most instances, it costs no more to use Michaels. So why not buy direct?

Be sure—use Michaels high-quality products—products you can count on for dependable service and long life—products which far outweigh any advantage you may gain by using questionable materials that look good when new, but do not give lasting service.

A partial list of Michaels products is shown. We shall be glad to work with you on any building project.

MICHAELS PRODUCTS

Bank Screens and Partitions

Welded Bronze Doors

Elevator Doors

Store Fronts

Lettering

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Check Desks (standing and wall)

Lamp Standards

Marquises

Tablets and Signs

Name Plates

Astragals (adjustable)

Grilles and Wickets

Wrought and Cast Radiator Grilles

Kick and Push Plates

Push Bars

Cast Thresholds

Extruded Thresholds

MI-CO Parking Meters

Museum Trophy Cases

Architectural Engineering

PRODUCTS

(Continued from page 174)

are available in either square or rectangular shapes, and incorporate incandescent or fluorescent lighting with flush, semi-flush or louvered lenses. Frames are hinged for relamping and maintenance. The units are constructed of light gage steel and finished in baked aluminum lacquer or prime coat for painting. Recessed boxes are steel, lined with asbestos heat insulation and equipped with reflectors. The units are available in a variety of sizes. Air Devices Inc., 17 E. 42nd St., New York 17, N. Y.

Lavatory

The Crane Criterion lavatory features a flat surface, and a rolled front edge for installation in tiled counters. The unit is of vitreous china, and measures 30 by 22 in. The basin is 16½ by 12½ in. All

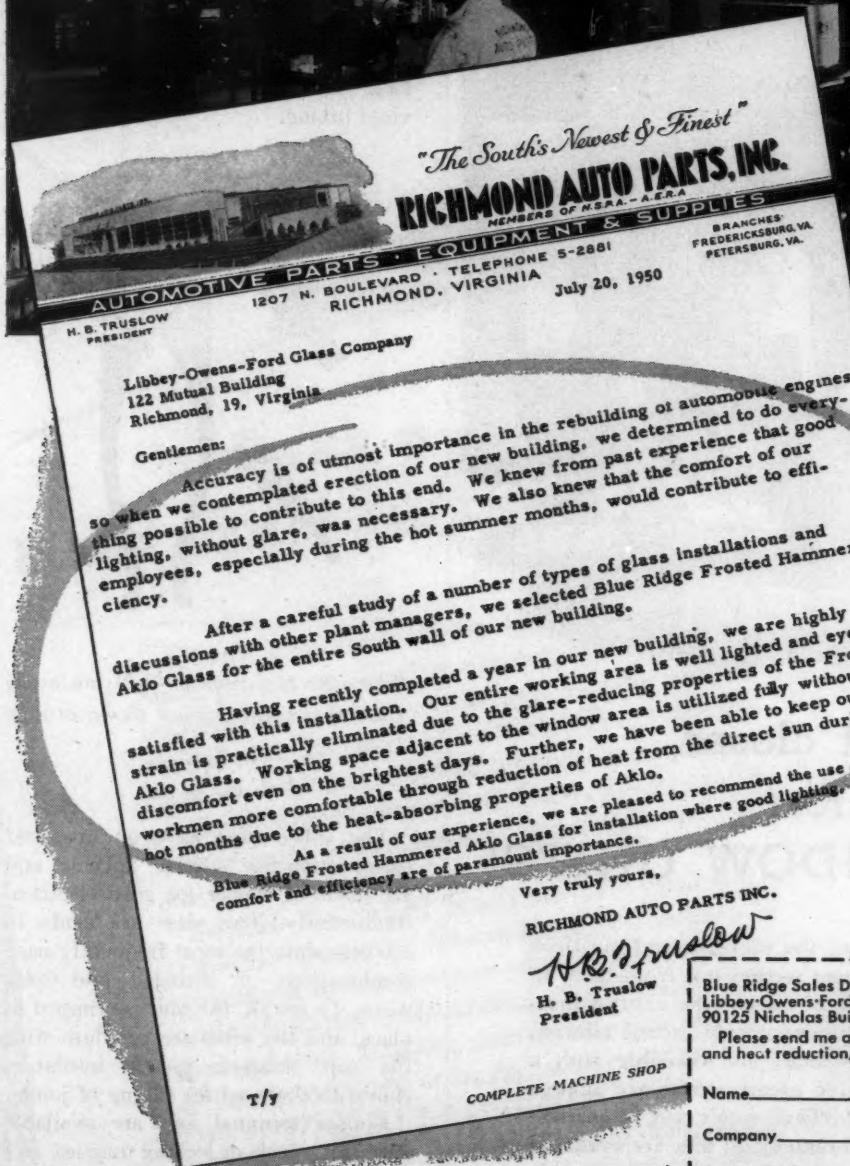


Trimly styled lavatory may be built into counter top or mounted on legs as shown

exposed trim and metal parts are finished in brushed chrome. Handles are of clear lucite. The unit may also be obtained with legs of chromium-plated tubes with lucite bases. The overflow is concealed in the front of the basin to leave the back smooth. The lavatories are available in white or any of eight colors. Crane Co., 836 S. Michigan Ave., Chicago 5, Ill.

(Continued on page 178)

The MICHAELS ART BRONZE CO., Inc., 234 Scott St., Covington, Ky.



FILTERED DAYLIGHT

pays off

Why not look into this...
Our book on reduction of
sun glare and heat is FREE.

Blue Ridge Sales Division
Libbey-Owens-Ford Glass Company
90125 Nicholas Building, Toledo 3, Ohio
Please send me a copy of your book on glare
and heat reduction, "Filtered Daylight".

Name _____

Company _____

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BLUE RIDGE AKLO GLASS

Heat Absorbing • Glare Reducing • Figured and Wire Glass





**They can sit closer...
in comfort
with WOOD WINDOW UNITS!**

No cold flows into this room from the muntins and mullions of these double-hung windows. No heat seethes out from them in summer. For these windows are made of wood—the natural insulating material that does so much to help control indoor climate.

Double-hung wood window units today are available with a scientific preservative treatment to give greater resistance against stain, decay, insect attack or humidity. They won't rust or corrode—are efficiently weatherstripped. And remember, they are available as pre-assembled units with modern sash balances—and in a wide variety of styles.

WOOD WINDOW INFORMATION SERVICE
38 South Dearborn Street
Chicago 3, Illinois

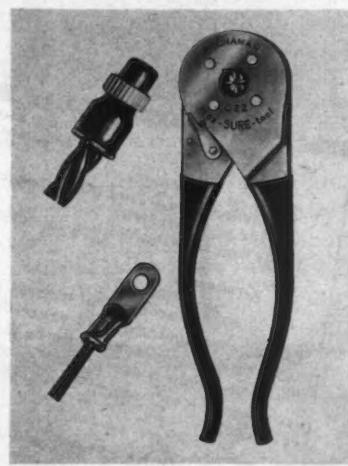
See your local lumber dealer for wood window units

PRODUCTS

(Continued from page 176)

**Solderless Connectors
For Electrical Wiring**

The Buchanan pres-SURE-connectors are designed to eliminate soldering and to save time in splicing and terminating electrical wires. A special hand operated crimping tool is used to install the connectors. It measures one pound, is 8 in. long, and has handles protected with vinyl tubing.



Connector and terminal (left) are easily fixed to wiring by device shown at right

The splice caps have an open-end construction for "pigtail" splicing, and are made of copper for good electrical conductivity. Two sizes are made to accommodate the most frequently used combinations of stranded and solid wires. To install, the unit is crimped in place, and the wires are cut flush with the cap. Snap-on plastic insulators eliminate the need for taping of joints.

Copper terminal lugs are available with ring, spade or locking tongues, and for a wide range of wire sizes. They are simply crimped in place over single or multiple wire ends. Installations of both types of connectors are claimed to be permanent and to require no maintenance. Buchanan Electrical Products Corp., 1290 Central Ave., Hillside, N. J.

Residential
Commercial,
or Industrial...

SQUARE D CIRCUIT BREAKERS
MAKE SENSE IN ANY SET OF "SPECS"

Circuit breakers eliminate fuses. They provide repeat protection. There is nothing to burn out . . . nothing to replace. Anyone can quickly restore service after the fault is eliminated. They offer the most in convenience, safety, compactness, and appearance. Equally important, more circuits can be added easily when required. Yet circuit breakers cost little more than fusible equipment.

Square D Circuit Breakers are THERMAL (Coilless) MAGNETIC. Thermal element deflects in proportion to temperature of wire insulation resulting from both surrounding air and losses within the conductor. Magnetic element responds instantly to heavy overloads or shorts. BOTH ARE NEEDED FOR COMPLETE PROTECTION!

Write for Bulletins SA 590 and SA 583, Square D Company,
6060 Rivard Street, Detroit 11, Michigan

THERE IS A SQUARE D CIRCUIT BREAKER
TO MEET EVERY REQUIREMENT...EXACTLY



ALSO INDUSTRIAL BREAKERS, PANELBOARDS,
SWITCHBOARDS AND DUCT

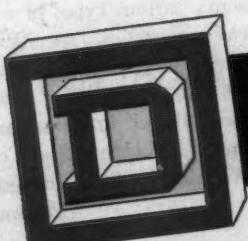
SQUARE D COMPANY

DETROIT

MILWAUKEE

LOS ANGELES

SQUARE D COMPANY CANADA LTD., TORONTO • SQUARE D de MEXICO, S.A., MEXICO CITY, D.F.



LITERATURE
(Continued from page 156)

Metal Windows

Sealuxe Engineering Products for Metal-Glass and Solarized Buildings (Catalog No. 25). Describes a line of windows and sun-control shades and fins for all-metal-and-glass buildings. Among the items covered are: folding flue windows, thermo-vista windows,

ventilating picture windows, solar shades, weather controls, cellular spandrels and fascias. Features, photographs, specifications and details are given for each item. 24 pp., illus. Universal Corp., 6710 Denton Drive, Dallas 9, Texas.

with a number of construction details. Data are given on units for ceilings, floors, back-up walls and partitions. Typical interior and exterior finishes are also pictured. 16 pp., illus. The Waylite Co., P.O. Box 30, Bethlehem, Pa.

Lightweight Masonry Units

Waylite, The Modern Lightweight Masonry Unit. Booklet describes features and physical characteristics of lightweight-aggregate building blocks. The various sizes and shapes available in standard units are illustrated, along

Welding

Recommended Practices for Resistance Welding. Manual includes welding schedules for spot and seam welding mild and medium carbon steels, low-alloy steels, stainless steels, nickel, Monel, Inconel and magnesium alloys. Recommended practices are given for projection welding low-carbon and stainless steels. Flash welding data are provided for low and medium forging strength steels. A section is included on methods of testing resistance and seam welds, and for the control of resistance weld quality. Many tables and details are given. 60 pp., illus. Price \$1.00. The American Welding Society, 33 W. 39th St., New York 18, N. Y.

Vertical Conveyor

Standard Recordlift (Bulletin No. 150). Describes an automatic vertical lift conveyor designed to distribute mail, records, files and general office supplies in institutions and large office buildings. Illustrations are included of typical installations, along with pictures of other types of conveyors made by the same manufacturer. 4 pp., illus. Standard Conveyor Co., Dept. AR, North St. Paul 9, Minn.

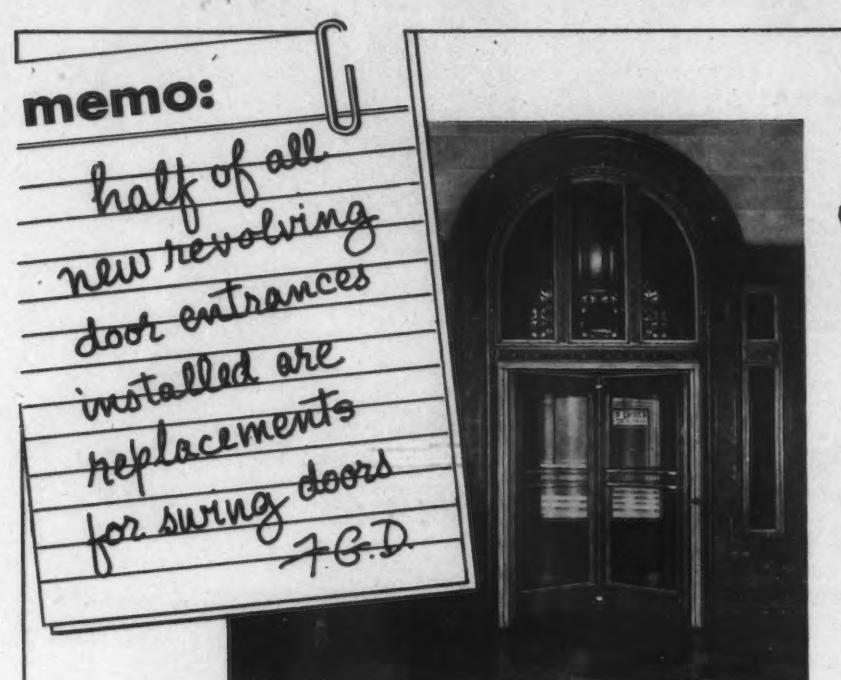
Plastics

A Simplified Guide to Bakelite and Vinylite Plastics and Resins. Booklet classifies fourteen types of plastics, including the various forms of Bakelite phenolic, styrene, polyethylene and Vinylite plastics and resins. General characteristics and properties are described for each form. Typical applications and uses of each material are noted and illustrated. 24 pp., illus. Bakelite Div., Union Carbide and Carbon Corp., 300 Madison Ave., New York 17, N. Y.*

Wallboard

Masonite Hardboards. Pamphlet presents various types of wallboard. Physical properties, specifications (exterior and interior), applications, cutting and bending, adhesives and nailing, and methods of finishing are included. 23 pp., illus. Masonite Corp., 111 West Washington St., Chicago 2, Ill.*

(Continued on page 182)



Fulton National Bank, Lancaster, Pa.

Again—

REVOLVING DOORS REPLACE SWING DOORS

Day after day—unsatisfactory experiences with swing door entrances convince store owners, bankers, hotel managers, and other businessmen that they must have revolving doors.

That is why the majority of all new revolving door installations are replacements for swing doors. And—the majority of all revolving doors installed are International-Van Kannel. Avoid replacement wastes—specify revolving doors in your original plans.

FOR INFORMATION see the Yellow Pages under Doors, Revolving, or our catalog in Sweet's.

REVOLVING
INTERNATIONAL-VAN KANNEL
1806 EDGAR STREET DOORS EVANSVILLE 7, IND.

IN CANADA—International-Van Kannel revolving doors are available through Eastern Steel Products, Ltd., in Toronto and Montreal.



65 footcandles in accounting office from Grenadier IIs 6' on centers.

Here's Why *Wakefield Grenadiers* were chosen for the offices of this wide-awake company

Because ruggedly-built Grenadiers provide abundant light that diffuses pleasantly from white enameled louvers and plastic side panels, achieving excellent illumination levels and low brightness contrasts.

Because Wakefield fixtures are easy to install—can be hung by one man. Sections hook securely to a pre-installed strap, then channel covers, lamps, louvers and side panels go up in turn. In addition to making installations easier, this assembly method is a permanent aid to maintenance.

Wakefield Grenadiers are available for use with two or four 40W bipin or Slimline lamps. See our insert in Sweet's Architectural File.

THE F. W. WAKEFIELD BRASS COMPANY • VERMILION, OHIO

Wakefield Over-ALL Lighting



GRENADIER



STAR



COMMODORE



WAKEFIELD CEILING



70 footcandles for general office from Grenadier IIs 6' on center.



55 footcandles for executive office from Grenadiers in two rows.



75 footcandles for mimeo room from Grenadiers with 5'6" spacing.

LITERATURE
(Continued from page 180)

Home Heating

How To Plan Home Heating. Booklet presents a line of heating systems. Features of warm air heating are discussed in a section directed principally to home owners. A check list gives methods of achieving more economical and efficient operation of furnaces. A simplified

method of estimating heat loss is included, along with tables and diagrams. 19 pp., illus. The Meyer Furnace Co., Peoria 2, Ill.

Library Lighting

Recommended Practice of Library Lighting. Booklet, prepared by a technical committee of the Illuminating Engineering Society, discusses various phases of library lighting. Among the items analyzed are: the seeing tasks involved, the environment, use of daylighting and lighting fixtures, and the eyesight con-

ditions of visitors. Recommendations are given for lighting reading rooms and book storage areas, along with general data on types of lighting systems and a comparison of filament and fluorescent light sources. Notes are included on brightness ratios and texture and color of finishes. 16 pp., illus. Price 50 cents. Publications Office, Illuminating Engineering Society, 51 Madison Ave., New York 10, N. Y.

Kitchen Equipment

The World's Newest Kitchen Ideas. Booklet features the Youngstown line of kitchen fixtures and equipment. Sinks, waste disposers, dishwashers and steel storage units are the principal items covered. Each unit is illustrated and described. Notes on kitchen planning and "practical household hints" are included. 24 pp., illus. Mullins Manufacturing Corp., Warren, Ohio.*

Interiors

Colorama. Clara Dudley Color-Idea Book. Booklet presents color photographs of many new rug and carpeting samples currently on the market. Also, an interior decorating service is prescribed, and five examples of before-and-after rooms are shown in full color. 24 pp., illus. Price 25 cents. Alexander Smith & Sons Carpet Co., 295 Fifth Ave., New York 16, N. Y.

LITERATURE REQUESTED

The following individuals and firms request manufacturers' literature:

Maurey Lee Allen, Architect, Zuelke Bldg., Appleton, Wis.

John Bucinskas, Draftsman, 1618 Harman, Baltimore 30, Md.

Arthur H. Bush, Student, 19 Lowell St., Cambridge 38, Mass.

Leo A. Daly Company, 1726 Ambassador Bldg., St. Louis 1, Mo.

E. C. Dimling, Operations and Store Planning Representative, Associate Merchandising Corp., 1440 Broadway, New York 18, N. Y.

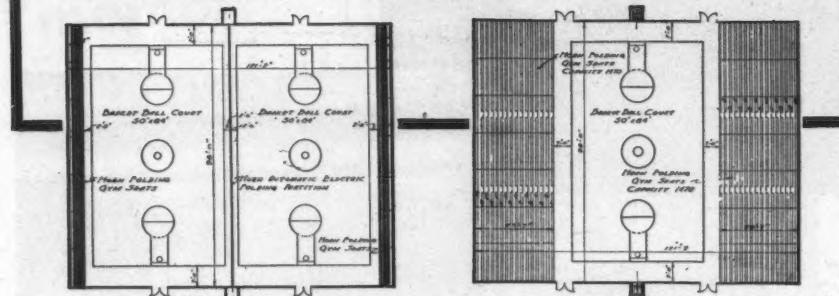
Thomas J. Donoghue, Architectural Designer, 1846 Ash St., Detroit 8, Mich.

P. Arthur D'Orazio, Architect, 712 Union National Bank Bldg., Youngstown 3, Ohio.

S. Myzel, Architectural Draftsman, 1000 W. Wyoming Ave., Philadelphia 40, Pa.

Austin K. Van Dusen, Architect, c/o General Petroleum Corp., 1115 W. 46th St., Seattle, Wash.

UTILIZE YOUR GYM SPACE WITH HORN



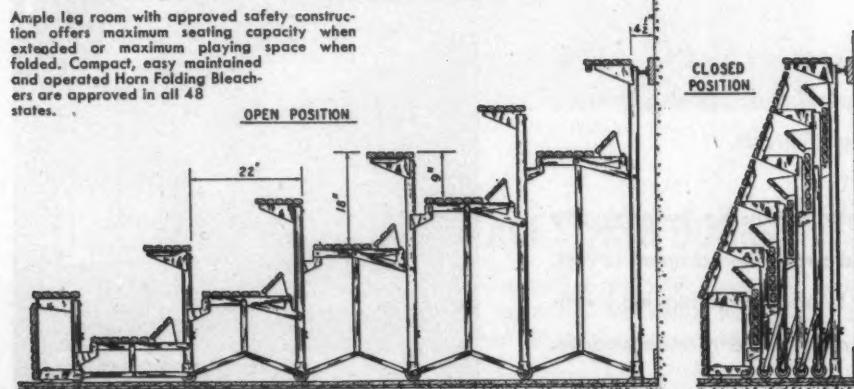
Two regulation basketball courts separated by a Horn Automatic Electric Folding Partition. Horn Folding Bleachers in folded position.

HORN FOLDING BLEACHERS extended increases the seating capacity for the BIG GAME! Horn Folding Bleachers will meet your requirements.

HORN FOLDING BLEACHERS

Ample leg room with approved safety construction offers maximum seating capacity when extended or maximum playing space when folded. Compact, easy maintained and operated Horn Folding Bleachers are approved in all 48 states.

OPEN POSITION



ROWS	FLOOR SPACE		**HEIGHT	ROWS	FLOOR SPACE		**HEIGHT
	IN USE	*CLOSED			IN USE	*CLOSED	
3	4' 9"	1' 8 1/4"	3' 0"	12	21' 3"	4' 3 1/8"	9' 9"
4	6' 7"	2' 0 1/2"	3' 9"	13	23' 1"	4' 6 1/2"	10' 6"
5	8' 5"	2' 3 1/4"	4' 6"	14	24' 11"	4' 9 1/8"	11' 3"
6	10' 3"	2' 6 1/8"	5' 3"	15	26' 9"	5' 1 1/4"	12' 0"
7	12' 1"	2' 10 1/4"	6' 0"	16	28' 7"	5' 4 1/8"	12' 9"
8	13' 11"	3' 1 1/4"	6' 9"	17	30' 5"	5' 8"	13' 6"
9	15' 9"	3' 5"	7' 6"	18	32' 3"	5' 11 1/8"	14' 3"
10	17' 7"	3' 8 1/4"	8' 2"	19	34' 1"	6' 2 1/4"	15' 0"
11	19' 5"	3' 11 1/4"	9' 0"	20	35' 11"	6' 6 1/8"	15' 9"

SINCE
1909

*Dimension includes 4 1/2 in. space between top seat and wall.
**Height in open position same as closed. For bleachers higher than 20 rows write for complete details and dimensions.

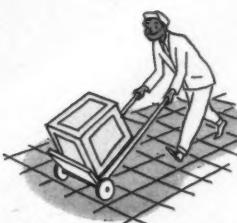
HORN BROTHERS COMPANY
DIVISION OF HORN INDUSTRIES FORT DODGE, IOWA, U.S.A.

5

Choose this Factory Floor FOR A?



Capital Investment!



You'll get many, many years of service from a Flexachrome* Plastic-Asbestos floor like this... service that renders it one of the soundest investments management can make. Let's look at the qualifications.

Flexachrome is greaseproof. Use it in machining areas, compounding departments, in-plant kitchens and dining rooms... anywhere grease abuse is a problem.

Maintenance is simple and economical. Flexachrome floors stay at their brilliant best merely with: daily sweeping to remove loose dirt, periodic washing, water-waxing (if desired).

Service life is extraordinary. The exceptional built-in wear resistance of Flexachrome floors brings cost-per-square-foot-per-year down to a figure that makes plant operating executives smile.

And appearance is superb! Here is a real aristocrat among flooring materials.

Because Flexachrome is laid in individual tiles, you get unmatched versatility. Use it as a single color floor (above)... or in any of almost unlimited variety of patterns. Your floor design can be merely decorative, or it can be used functionally... to identify departments and bays, or direct traffic.

Now consider color. 33 sharp, brilliant colors from white to black... primary to pastel... give you a veritable rainbow to meet any decorative requirements. *And color is taking on increasing importance in industrial design especially where light reflectance is important.*

Write us for detailed information.
THE TILE-TEX DIVISION, The Flintkote Company, Dept. F, 1234 McKinley Street, Chicago Heights, Illinois.

*Other Tile-Tex Flooring Products include:
Mura-Tex* Plastic-Asbestos Wall Tile; Tuff-Tex* Heavy Duty Greaseproof Industrial Tile; Tile-Tex*... the Quality Asphalt Tile.*

*REGISTERED TRADEMARK, THE FLINTKOTE COMPANY

Tile-Tex
PLASTIC-ASBESTOS
FLOORS AND WALLS

Spend too much time

digging
for
data?

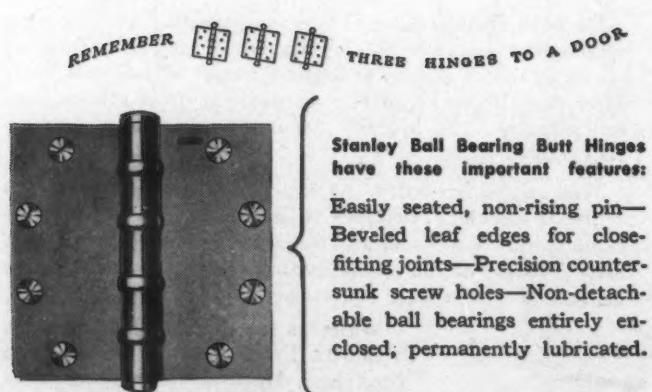


A qualified specialist—the Architectural Hardware Consultant—can keep you out of this picture. And the valuable services the consultant offers to architects go much further than writing specifications and furnishing price data.

His know-how . . . his specialized training and experience in builder's hardware makes him an important member of the planning team. He is fully qualified to advise and co-operate in selection, detailing, installation and maintenance of the proper hardware for the structures you are planning. You'll be pleased with his recommendations . . . and so will your clients.

Call your Architectural Hardware Consultant. He'll be glad to help whenever you need him.

If you do not know the name of the man in your locality, a letter to Stanley will put him in touch with you promptly.

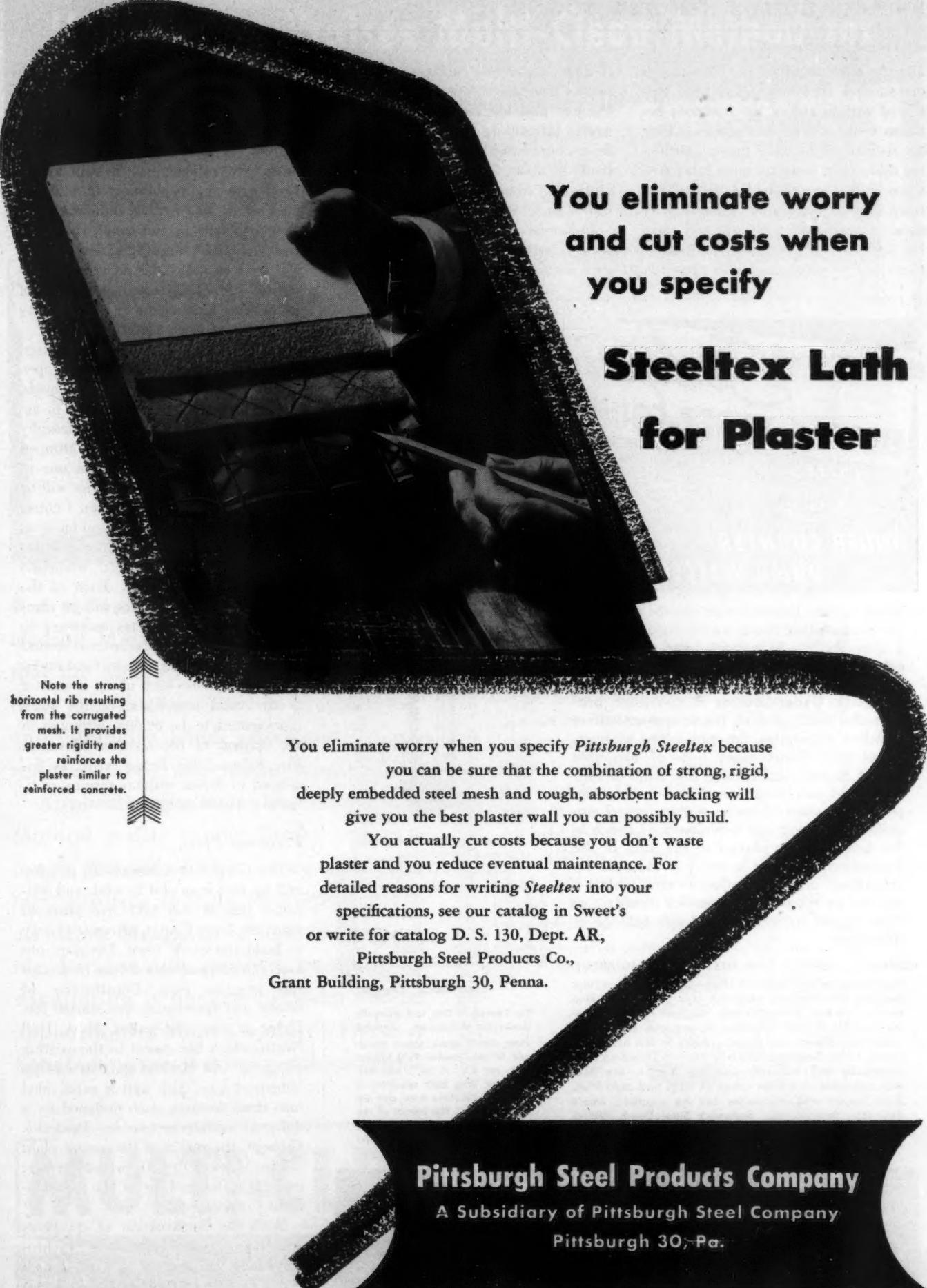


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HARDWARE • TOOLS • ELECTRIC TOOLS
STEEL STRAPPING • STEEL

THE STANLEY WORKS, NEW BRITAIN, CONNECTICUT



You eliminate worry
and cut costs when
you specify

Steeltex Lath for Plaster

Note the strong horizontal rib resulting from the corrugated mesh. It provides greater rigidity and reinforces the plaster similar to reinforced concrete.

You eliminate worry when you specify *Pittsburgh Steeltex* because you can be sure that the combination of strong, rigid, deeply embedded steel mesh and tough, absorbent backing will give you the best plaster wall you can possibly build.

You actually cut costs because you don't waste plaster and you reduce eventual maintenance. For detailed reasons for writing *Steeltex* into your specifications, see our catalog in Sweet's or write for catalog D. S. 130, Dept. AR, Pittsburgh Steel Products Co., Grant Building, Pittsburgh 30, Penna.

Pittsburgh Steel Products Company

A Subsidiary of Pittsburgh Steel Company

Pittsburgh 30, Pa.

BRITAIN BUILDS HER NEW TOWNS

(Continued from page 105)

and the relationship of the buildings to one another. He is aware of the possibilities of variety and of the contrasts between volumes of outdoor spaces as they are defined by building masses. Believing that urban areas are more attractive when limited in size, he has divided the town into compact units, separated by areas of landscape, parkways and playing fields. The site is rich in tradition — there are a number of old churches,

chapels, houses and cottages — and the master plan seeks to preserve landscape features and all existing buildings of worth, integrating them with the new. In extent, Harlow New Town will eventually be about $3\frac{1}{4}$ miles from north to south, $4\frac{1}{2}$ from east to west across its widest parts; it covers 6320 acres.

Industrial areas provided in the master plan cover 535 acres, of which one part, in the northeast corner, is for im-

mediate development; the other, in the northwest, is to be developed later. An industrialist moving to the New Town can either lease land and build his own factory, or rent a standard factory — or factory sections — to be built by the Development Corporation in units of 2000 sq ft. The eastern industrial area has, with railway and canal, the facilities essential for large industries, whereas the western industrial area will be allocated for smaller factories because of its existing landscape and its proximity to the future town center.

Residential areas consist of thirteen individual units, separated by open spaces which are left free for schools, recreation grounds or farm land in accordance with their natural topography and landscape. The units are grouped around four major centers. In one of these, large-scale town activities will be focused; this will be the Town Center, with the principal shopping and business area, administrative, cultural and entertainment buildings, hotels, wholesale and warehouse buildings. Each of the other three major centers will be composed chiefly of buildings necessary to make the neighborhoods clustered around them self-contained. These four major groups will house each about a quarter of the total population of the town (anticipated to be 60,000, although in the opinion of the General Manager, Mr. Adams, this figure might be increased to 80,000 without causing additional expense except for housing).

SPECIFY THE *Sedgwick*
ELECTRIC UNDER-COUNTER ROTO-WAITER!

SAFE
for
DEPENDABLE
ECONOMICAL

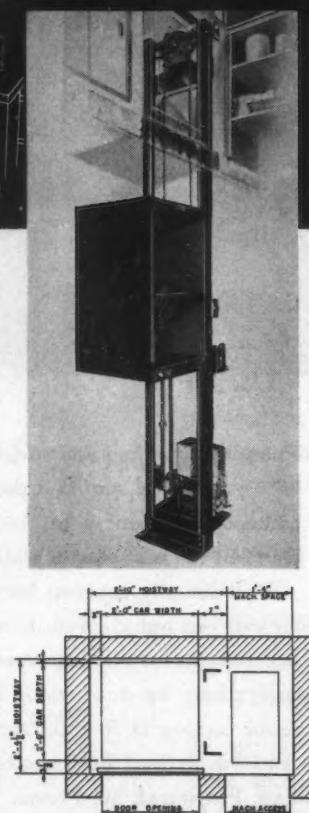
UNDER-COUNTER
DUMB WAITER SERVICE

Where space limitations or service needs require an electric dumb waiter installed under a counter . . . in a back bar . . . or in a cabinet — in drug stores, groceries, markets, restaurants, cafeterias, soda fountains — the Sedgwick Under-Counter Roto-Waiter provides the ideal solution. The unique roto-drive principle eliminates the possibility of overtravel and allows every inch of available height to be used safely. The outfit is self-contained, requiring fastening — but no support at the upper floor level. Its compact machine, occupying but a minimum of space in the basement, is placed at the side of the equipment, where it is easily accessible for inspection and lubrication — and where it will not be subject to the service disorders so often caused by accumulated dirt, spillage or drainage.

COMPLETE SEDGWICK LINE MEETS EVERY REQUIREMENT

In addition to the Sedgwick Under-Counter, and regular two-stop Roto-Waiters, Sedgwick also builds Multi-Stop Electric Traction Dumb Waiters for three or more landings — with a wide selection of specially engineered control equipment and signal systems to suit individual needs. Other Sedgwick Dumb Waiters — including both electrically and manually operated types — are likewise available in a wide range of sizes and capacities. Steel towers and enclosures can be supplied where desirable. Specify, too, Sedgwick Steel Dumb Waiter Doors for complete satisfaction.

Write for Illustrated Booklet AR-2



Car Travels to One Inch Beneath
Underside of Counter . . . Safety!
Plan, shown above, shows standard
Under-Counter Roto-Waiter with
car 24" x 24", 150 lbs.
capacity. Also built specially in
greater capacities with cars up
to 36" x 36". The height of the
car is, of course, dependent on
the clear height available under
the counter.

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Progress Plan

The Corporation intends to develop unit by unit from east to west, and estimates that it will take five years to reach the Town Center, fifteen to twenty to build the whole town. Division into four interdependent centers facilitates this progress plan. Construction of houses and apartments was started last spring in the unit called Mark Hall North, which lies closest to the existing village of Old Harlow and the eastern industrial zone. This unit is subdivided into three sections, each designed by a different architect: one by Frederick Gibberd, the author of the master plan; one by Maxwell Fry, Drew and Partner; one by a Design Unit of the Development Corporation.

With the construction of dwellings and their principal services is synchronized the building of schools, which

(Continued on page 188)

Headmaster Praises Multi-Clean Method for Gym Floors

**Hard, Gleaming Surface
Safe, Non-Slip Footing
Minimum Maintenance**

The Multi-Clean Method, applied to this floor, gives it a long-lasting gloss... keeps it in tournament shape. Multi-Clean Gym Finish excels or meets all specifications established by the Maple Flooring Manufacturers' Association.



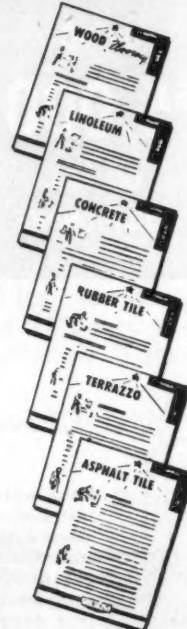
● A report from the Headmaster of a leading Midwestern prep school stated that the Multi-Clean Method applied to their gym floor resulted in greater gloss and durability, better safety and sharply reduced labor and maintenance costs.

Applied to gym floors, the Multi-Clean Method resists rubber burns, makes a tough, gleaming surface. Since it provides fast, slip-free footing, it helps prevent accidents. Maintenance costs are negligible, because only periodic sweeping or vacuuming is needed between annual applications of Multi-Clean Gym Finish. A light buffing removes heavy rubber marks.

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MULTI-CLEAN

PRODUCTS, INC.

2277 Ford Parkway
Dept. 41B

St. Paul 1,
Minnesota

BRITAIN BUILDS HER NEW TOWNS

(Continued from page 186)

rests with the Education Authority; of health centers, which are the responsibility of Harlow Development Corporation; and a hospital, which falls under the authority of the Ministry of Health. Private architects will be commissioned by the respective authorities to design these buildings. The progress plan further includes provision of social and recreational facilities, the step-by-step building of the neighborhood center

with its shopping and service facilities. To provide for entertainment in the early stage of development, part of a standard factory unit, planned in the close-by industrial area, will temporarily be fitted and rented as a cinema.

Meanwhile detailed planning of the second unit, Mark Hall South, has been started. It comprises four distinct developments assigned to different architects: one to a second Design Unit of the

Development Corporation; the others to the following private firms: Cadbury Brown, Richard Sheppard, F. R. S. Yorke.

Distribution of Planning Work

Distribution of work among various offices offers younger architects chances to establish reputations. Private architects are given commissions either on merits of past work or on approval of applications to the Corporation. The Corporation holds full responsibility for choice of architects; the Minister is not consulted on this question.

To the offices of the Corporation in Harlow, and to the surveyors, architects, and engineers, is added another professional figure peculiar to building practices in England: the quantity surveyor, who has independent status as a controller and advisor on all facets of building expenditure. In England, hardly any architect would be prepared to proceed beyond preliminaries without the services of a quantity surveyor. These are remunerated on a percentage fee basis, and include preparation of bills of quantities on which bids and final building contracts are based — a procedure which leaves no possibility for difference of opinion or interpretation. To this post the Harlow Development Corporation appointed Oswald E. Parratt, who has a staff of eighty. The execution of all work — buildings, services and roads — is entrusted to contracting firms after competitive bidding.

Acquisition of Land

Closely synchronized with development progress is acquisition of land. Just over 1350 acres of the Mark Hall area have already been purchased. As a general rule, the farmer is given sufficient time to rotate his crops and get full value out of his land before it is taken over.

Harlow New Town is here used as example because it is the one farthest along in actual construction. Visitors to next year's British exhibition, *The Festival of Britain*, will be invited to inspect Harlow New Town as a show window of the Ministry of Town & Country Planning's achievements. From the top floor of the ten-story apartment block in Mark Hall North, scheduled for completion early next spring, visitors will have a view of the entire Harlow area.

OTHER NEW TOWNS

Other New Towns in the London region follow a more or less similar pattern.

(Continued on page 190)

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—Plus

Rated Fire Protection



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FIRE PROTECTION—Built around an incombustible Kaylo core, using fire retardant treated wood edge bands, the Kaylo Firedoor carries an Underwriters' fire rating for Class B and C openings.

HANDSOME APPEARANCE—The wood veneer-faced Kaylo Firedoor equals the richness of the most striking conventional wood doors.

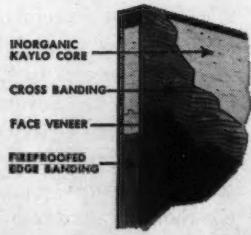
GREAT DIMENSIONAL STABILITY—A Kaylo Firedoor does not warp, swell or shrink—even when subjected to heat or cold, dampness or dryness.

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LIGHT WEIGHT PLUS STRENGTH—A standard 3'4" x 7' Kaylo Firedoor weighs only 90 lbs., but can support an 8000-lb. distributed load with only $\frac{1}{2}$ -inch deflection while loaded. After unloading, there is no permanent deflection.

Get all the facts now about the new Kaylo Firedoor.

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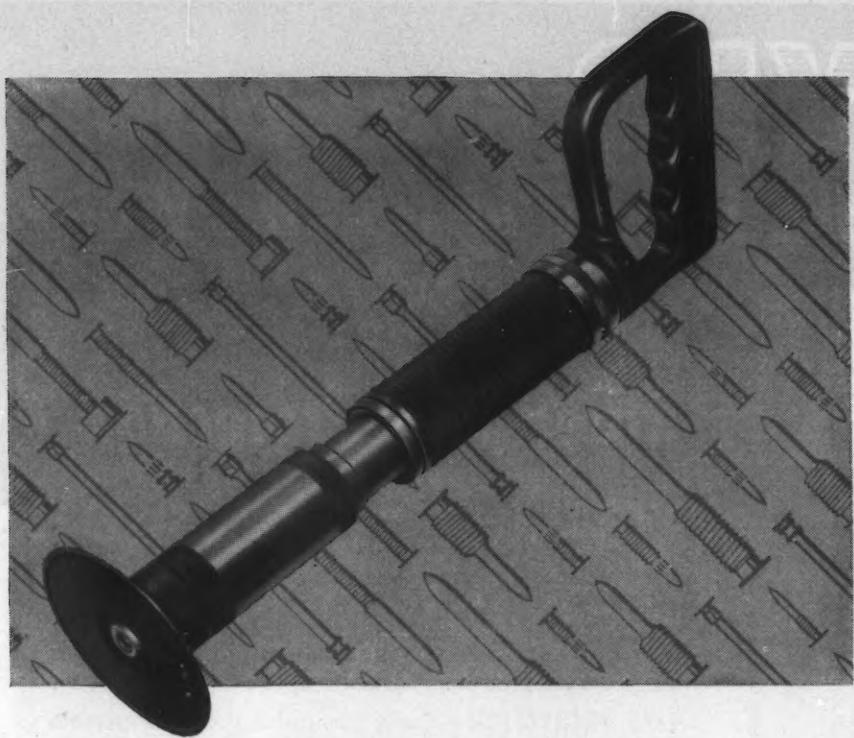
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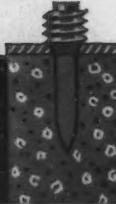
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or TURN IT**



Ramset Fastening System
Pioneer in powder-actuated fastening

BRITAIN BUILDS

(Continued from page 188)

tern. In some, for instance Welwyn Garden City and Hatfield New Towns, are incorporated large existing developments. Not interfering with Ebenezer Howard's original garden city concept, the two planners, Louis de Soissons and Lionel Brett, add to this twin city new elements of urban quality.

From Crawley New Town, on the London-Brighton electric railway, the center of London is easily reached, a fact which has led to a different progress schedule. In contrast to Harlow, the Crawley Development Corporation gives first priority to industrial buildings, expecting that workers transferring to the New Town could, for a time, remain in London homes and travel to their new place of work, moving to Crawley as new houses become available there.

Plans of New Towns outside the London region strongly reflect their respective situations and, basically, are modeled on their industrial structures: Aycliffe in the north of England, for residences next to an existing large war plant now turned over to peacetime purposes; Peterlee, to provide living accommodations for miners at present existing in poor villages of rundown houses; Cwmbran, where a number of factories have been built under the Government's policy to revive South Wales; Corby in Northamptonshire, where expansion of iron and steel works will more than double the size of the existing town. Not all the New Towns are new. Some are unforeseen or accelerated expansions of existing communities.

WOULD THE IDEA WORK IN THE UNITED STATES?

Once we agree upon the desirability of organized decentralization, and upon the New Towns idea as a satisfactory method, the principles underlying the idea can be applied to metropolitan areas everywhere. In England, the New Towns idea has developed logically, in sequence, with legislative acts — essentially non-party, or more properly, all-party measures — gradually planting the roots for its development.

The scale of the idea suggests governmental participation and support at the start. As soon as the revenue-producing phase is reached, there is no reason why private enterprise should not enter and either purchase or build on its own account. In London the most important

(Continued on page 192)



A MORE
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OF MOVING
MORE PEOPLE
at a surprisingly
low price*

The new Otis *free-flow* Escalator extends the spaciousness of free-flow sales aisles to vertical transportation. Shoppers ride side-by-side as casually as they walk along a sales aisle. Without waiting, crowding, effort. It's a more luxurious way of attracting more street-level shoppers to upper floors and basements—*at a surprisingly low price.**

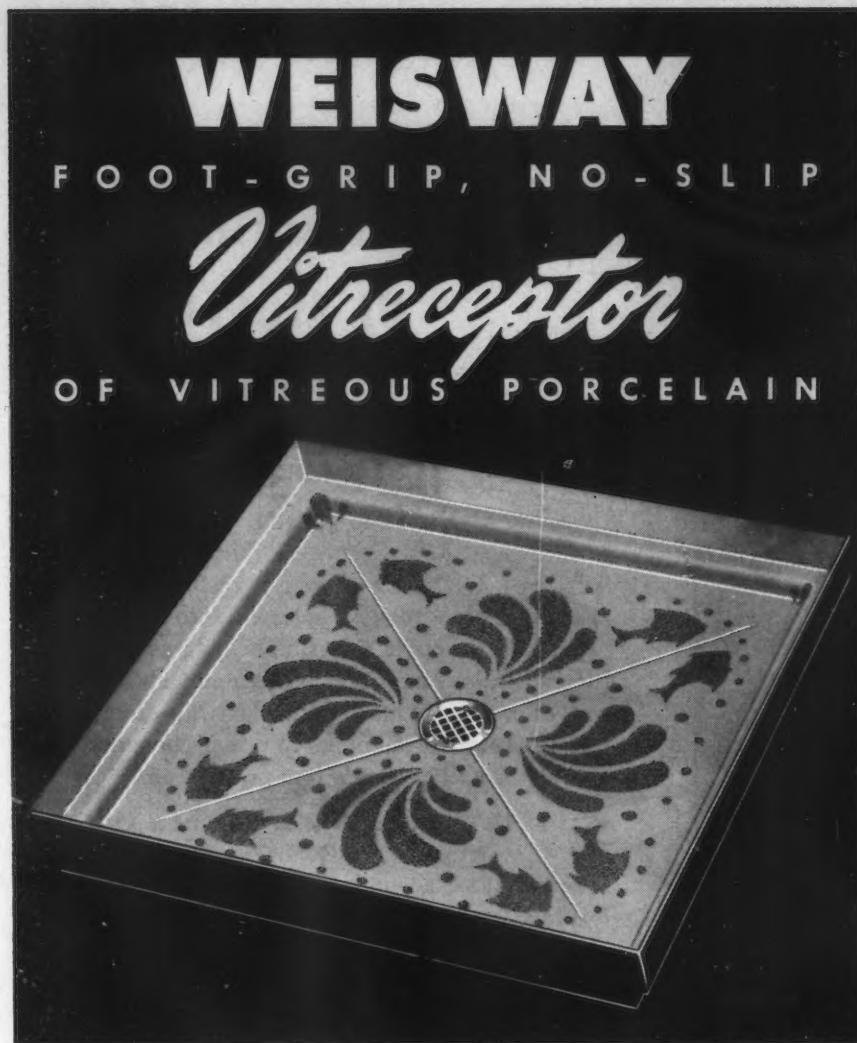
IN DEPARTMENT STORES. The new Otis *free-flow* Escalator is really an inclined sales aisle. Shoppers look around comfortably as they ride... locate sales items faster... see bargains they might otherwise have missed... make more impulse purchases—*because merchandise that can be seen can be sold!*

IN TRANSPORTATION TERMINALS. The new Otis *free-flow* Escalator is a good-will builder. It moves masses of people quickly from one level to another without crowding. Travelers are grateful. It eliminates delays and the physical effort of walking and carrying baggage upstairs.

IN COMMERCIAL BUILDINGS. The new Otis *free-flow* Escalator is an income builder. It gives 2nd floor locations street-level accessibility. Either from the lobby or direct from the sidewalk. It opens up large-area 2nd floor rentals to banks and heavy-traffic retail stores.

Details? The new Otis *free-flow* Escalator has a 48" riding width and a traffic capacity of 8,000 riders an hour. In addition, it has all the proven design features of Otis' amazingly successful 32" wide escalator which it complements—as any of our 263 offices will gladly explain! Otis will also be glad to make traffic studies and assist in developing complete vertical transportation systems—without obligation. Otis Elevator Company, 260 11th Avenue, New York 1, N. Y.

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For beauty...for safety...for absolutely leakproof service at the most vital points in shower construction...specify the Weisway Vitreceptor. The textured sea shell pattern in a neutral tone on lustrous white harmonizes with any color scheme. Foot-Grip, No-Slip floor is safe, wet or dry, non-absorbent, easy to keep clean and sanitary.

Formed in one piece, of 14-gauge enameling iron, with vitreous porcelain finish inside and out, Vitreceptor has no dirt-gathering joints, nothing to crumble away. No metal underpans or wall flashing are required, no messy mastic or other "waterproofing." Vitreceptor stays leakproof—assures client satisfaction through the years, protects your reputation. For better stall showers with any practical wall material specify Vitreceptor. Write for new catalog folder with dimensional and installation details.



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Adjoining finish wall materials are enclosed within a continuous rim which is an integral part of the Vitreceptor body. This feature provides a positive wall flashing and assures a leakproof meeting joint, whether the wall material is tile, as in the illustration at the left, glass, marble, etc.

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BRITAIN BUILDS

(Continued from page 190)

building investments are on ground leased for ninety-nine years or longer; the lease proposition of the New Towns Act is familiar to the British investor. To inject freehold propositions into the New Towns idea might alter its local interpretation but would probably not lessen its effectiveness. To protect against uncoordinated design, a carefully considered definition of permissible building volume and height would be required. The impressive architectural aspects of Paris, for instance, could not have been achieved and protected without such restrictions.

When we look at our metropolitan centers we may or may not like changes inside them; our tastes differ; but we almost unanimously agree that a drive through the outskirts, comparing the picture we see today with that of only ten years back, is painful. If once there was beauty there, nothing is left of it. Subdivisions, with monotonous apartment buildings or detached houses spilt like peas over the site, replace former farm land and landscape features in locations which should have been protected if for no other reason than to secure for the encircled city breathing space and recreational possibilities. Would it not have been wiser to prevent the tentacles of ribbon development along main roads, to have preserved a surrounding strip of green, to have organized decentralization into new, balanced communities?

For the United States, or any other country struggling against uncontrolled urban growth, the British New Towns open a new vista. It can be modified to meet almost any circumstances or customs without losing vitality. What possibilities are latent in the idea!



The author, Michael Rosenauer, F.R.I.B.A., A.I.A., known internationally as an architect, planner and housing expert, was born in Austria and has practiced in Vienna, Paris, London, and the United States. He is Visiting Professor at the School of Fine Arts, University of Pennsylvania.

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THE RECORD REPORTS

(Continued from page 24)

ON THE CALENDAR

Through Dec. 2: 19th National Exposition of Power and Mechanical Engineering — Grand Central Palace, New York City.

Through Jan. 28: "Good Design," an exhibition of the best designs in home furnishings for the year 1950 as chosen by the Museum of Modern Art Selection

Committee — The Museum of Modern Art, 11 W. 53rd St., New York City, and The Merchandise Mart, Chicago.

Dec. 1-2: Great Lakes Regional Seminar, the American Institute of Architects — Oliver Hotel, South Bend, Ind.

Dec. 6 and 13: Last two of ten conferences, *Forum for Modern Living*, sponsored by the Architectural League of New York. Dec. 6 — Lighting and Color in the Home; Dec. 13 — Widening Ho-

rizons. Conferences are scheduled from 8:30 to 10:00 p.m. — The Architectural League, 115 E. 40th St., New York City.

Jan. 15-18: Plant Maintenance Show and Conference on Plant Maintenance Techniques — Auditorium, Cleveland.

Jan. 17-Mar. 18: Exhibition of prize-winning designs from Lamp Competition — Museum of Modern Art, 11 W. 53rd St., New York City.

Jan. 18-20: Seventh Annual National Technical Conference, Society of Plastics Engineers, Inc. — Hotel Statler, New York City.

Jan. 21-25: Seventh Annual Convention, National Association of Home Builders — Stevens and Congress Hotels, Chicago.

Jan. 22-25: 57th Annual Meeting, American Society of Heating and Ventilating Engineers — Bellevue-Stratford Hotel, Philadelphia.

Jan. 22-26: 10th International Heating and Ventilating Exposition — Commercial Museum, Philadelphia.

OFFICE NOTES

Offices Opened

• Thomas J. Donoghue has opened an office for the general practice of architectural design at 1846 Ash St., Detroit 8, Mich.

• Myron M. Kehne announces the opening of an office for the practice of architecture at 2639 University Ave., St. Paul, Minn.

• Harry C. Kline, Jr., industrial designer, has opened new shops and offices at 49 Virginia Place, Buffalo, for the making of industrial scale models for architectural, engineering and industrial firms.

• Eleanor Pepper, Architect, announces the opening of her office as consultant on interior design and finishes at 150 E. 35th St., New York City.

New Firms, Firm Changes

• Edward J. Hurley and Raymond P. Hughes announce the partnership of Hurley & Hughes, Architects, with offices at 12 E. 48th St., New York City.

• Announcement has been made of the formation of the partnership of Graham Latta and Carl Denney, Architects, at 940 Alma St., Glendale 2, Calif.

(Continued on page 196)



There are four good reasons why Azphlex grease-resistant asphalt tile offers such remarkable qualities:

- 1 **Tremolite Talc**, its mineral filler, is highly stable, and totally resistant to alkalis, acids and other chemicals. It is fine-grained and microscopically fibrous.
- 2 **Asbestos Fiber** used in Azphlex is of the Chrysotile variety, noted for its fine texture, flexibility, strength and resistance to fire.
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Installation of Bethlehem Longspan Joists in Fernbrook Park Mill (Dallas, Pa.) of Bloomsburg Mills, Inc.
Architect: Lacy, Atherton and Davis, Wilkes-Barre, Pa. Contractor: Sordoni Construction Co., Forty Fort, Pa.

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Bethlehem Longspan Joists are ideal for use in roof construction of industrial buildings because they eliminate interior columns in floor areas up to 64 ft or more across. In addition to making possible greater clear floor area, they have these other advantages: (1) they reduce the need for pilasters, (2) they save construction time, as pipes, conduits and ducts can be run through the open webs of the

joists, (3) they can be used to advantage in floor construction.

Bethlehem Longspan Joists come completely fabricated and clearly marked, ready for use. They are made in two types—underslung construction with top-bearing ends, and bottom-bearing construction with square ends. They have cambers of approximately $1\frac{1}{2}$ in. for 30-ft spans, $3\frac{1}{4}$ in. for 40-ft spans, 1 in. for 50-ft spans, and $1\frac{1}{2}$ in. for 60-ft spans.

For additional details about Bethlehem Longspan Joists, get in touch with the nearest Bethlehem sales office. Or write to us at Bethlehem, Pa.



On the Pacific Coast Bethlehem products are sold by Bethlehem Pacific Coast Steel Corporation. Export Distributor: Bethlehem Steel Export Corporation.

BETHLEHEM LONGSPAN JOISTS

THE RECORD REPORTS

(Continued from page 194)

• George Nemeny and A. W. Geller, Architects, have announced the dissolution of their partnership. They will continue to practice independently — Mr. Nemeny at 100 W. 42nd St., New York City, and Mr. Geller at 130 E. 56th St., New York City.

• Howard W. Tuttle, A.I.A., H. James Holroyd, A.I.A., and Richard N. Matheny, A.I.A., announce the formation

of a partnership for the general practice of architecture. The new firm, which will be known as Tuttle, Holroyd and Matheny, will have offices at 3201 W. Broad St., Columbus 4, Ohio.

New Addresses

The following new addresses have been announced:

P. Arthur D'Orazio, Architect, 712

Union National Bank Bldg., Youngstown, Ohio.

John Kewell, Architect, 1344 Wilshire Blvd., Los Angeles 17, Calif.

Newton L. Lockwood, Architect, 112 W. Main St., Plainville, Conn.

Theodore L. Soontrup, A.I.A., 118-14 Queens Blvd., Forest Hills, L. I., N. Y.

Beverly A. Travis & Assocs., Electrical Engineers, and C. W. May, Mechanical Engineer, 407 Medical Arts Bldg., Seattle 1, Wash.

ELECTIONS APPOINTMENTS

• Officers of the Northern California Chapter of the American Institute of Architects for 1950-51 are: Ralph Pollack, president; F. Joseph McCarthy, vice president; William B. McCormick, secretary; George A. Downs, treasurer; Charles F. Masten, director (three-year term), and (continuing as directors) John Lion Reid and William H. Rowe.

• Charles J. Nocar, director of research and development at the E. H. Hauserman Co. of Cleveland, has been elected president of the Acoustical Materials Association for 1950-51.

• Dave Chapman, 41-year-old Chicago industrial designer, has been elected president of the Society of Industrial Designers for the coming year. He succeeds Egmont Arens of New York. Other newly-elected officers of the Society are: Viktor Schreckengost, Cleveland, vice president; Robert Hose, New York, secretary; and A. Baker Barnhart, New York, treasurer.

• Officers and new directors elected by the American Institute of Steel Construction at its annual convention are: president — R. D. Wood, Mississippi Valley Structural Steel Co., Chicago; first vice president — J. E. Jackson, Pittsburgh-Des Moines Steel Co., Pittsburgh; second vice president — J. Philip Murphy, Judson-Pacific-Murphy Corp., Emeryville, Calif.; executive vice president — L. Abbott Post, New York City; treasurer — James M. Straub, Fort Pitt Bridge Works, Pittsburgh; secretary — M. Harvey Smedley, New York City; directors — R. N. Allen, Star Iron & Steel Co., Tacoma, Wash.; L. J. Knapp, Whitehead & Kales Co.

(Continued on page 198)

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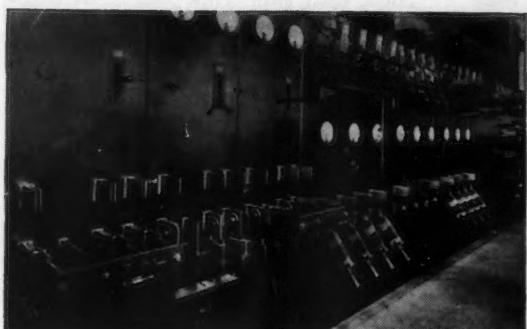
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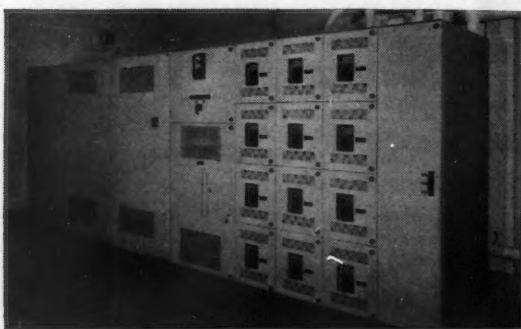
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Certainly not! This modern new building will naturally have a modern heating system, too. Yet . . . *electrical equipment—nearly as old-fashioned as the pot-bellied stove—is often specified, purchased, and installed in buildings under construction today.*

We refer to electrical control equipment . . . the all-important nerve center of any modern building. This is where the power supply is controlled and distributed to the many facilities which depend upon electricity. Here, you must be *sure* . . . for the protection of costly equipment, the safety of personnel, and operation of vital services are at stake.

Westinghouse Low-Voltage, Metal-Enclosed Switchgear offers the kind of dependability you need for this critical application. This is the modern way . . . the way that assures adequate interrupting capacity . . . that eliminates fire hazard. All breakers and associated equipment are completely enclosed in convenient, self-supporting "Unitized" structures to assure safety, flexibility, reliability. Contrast this with the old-fashioned installation shown at left, above—a type which is still being specified—and ask yourself this question:

Which type of installation will best fit the buildings I design?

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THE RECORD REPORTS

(Continued from page 196)

Detroit, Mich.; Earl A. Jung, August Feine & Sons Co., Buffalo; F. E. Owen, Paxton & Vierling Iron Works, Omaha.

• Harry W. Pierce has been elected president of the American Welding Society for the coming year. Mr. Pierce is assistant to the president, New York Shipbuilding Corp., Camden, N. J. Other officers elected are: first vice

president — Charles H. Jennings, engineering manager, Welding Department, Westinghouse Electric Corp.; second vice president — Fred L. Plummer, director of engineering, Hammond Iron Works, Warren, Pa.

• Lester T. Avery, president of the American Society of Heating and Ventilating Engineers, is chairman of the

Advisory Committee of the 10th International Heating and Ventilating Exposition, to be held at the Commercial Museum in Philadelphia January 22-26. Others named to serve on the committee are these Society members: Charles S. Leopold, member of the Council; John W. McElgin, president, Philadelphia Chapter; Edward L. Crosby, president, Baltimore Chapter; H. J. Kirkendall, president, Pittsburgh Chapter; Carl F. Kayan, president, New York Chapter; H. P. Gant and Merrill F. Blankin, past presidents. A. J. Nesbitt, general chairman of the ASHVE annual meeting, also is a member of this group.

• Leigh W. Haefle has been appointed assistant chief engineer of the general engineering department of Air Reduction Co., Inc.

• Lyman H. Allen Jr., formerly assistant chief design engineer in charge of chemical process design with the American Viscose Corp. in Philadelphia, has been named chief engineer of Foster D. Snell, Inc., New York firm of chemical and engineering consultants.

AT THE COLLEGES

Microfilm Project Would Save Architectural Data on Chicago

A joint project of the Art Institute of Chicago and the University of Illinois seeks to preserve the architectural heritage of Chicago on microfilm.

John G. Replinger, a 1949 graduate of the School of Architecture of the University of Illinois, has been appointed through the university as executive associate in charge of the microfilming project.

The plan is to microfilm working drawings and other pertinent material which can reveal the essential details of Chicago architecture. These bulky and rapidly disappearing documents can easily be preserved in microfilm form and made available to scholars at the Burnham Library of Architecture at the Art Institute and the Ricker Library of Architecture at the University at Urbana.

Architects, estates, contractors, corporations, realtors or others who may possess plans and other records of significance have been asked to contact Mr. Replinger at the Burnham Library, Art Institute of Chicago.

(Continued on page 200)

New RIXSON MULTI-POINT DOOR HOLDER

RIXSON

Used with the Rixson Uni-Check, the Multi-Point Door Holder No. 37 offers an unsurpassed installation for doors which require several points of hold-open. Upon quick release by a slight manual opening of the door, it returns to closed position under control of the hydraulic checking device. Almost any number of positive hold-open points desired may be furnished.

Special problems of installation will receive prompt attention from the Rixson engineering and designing departments.

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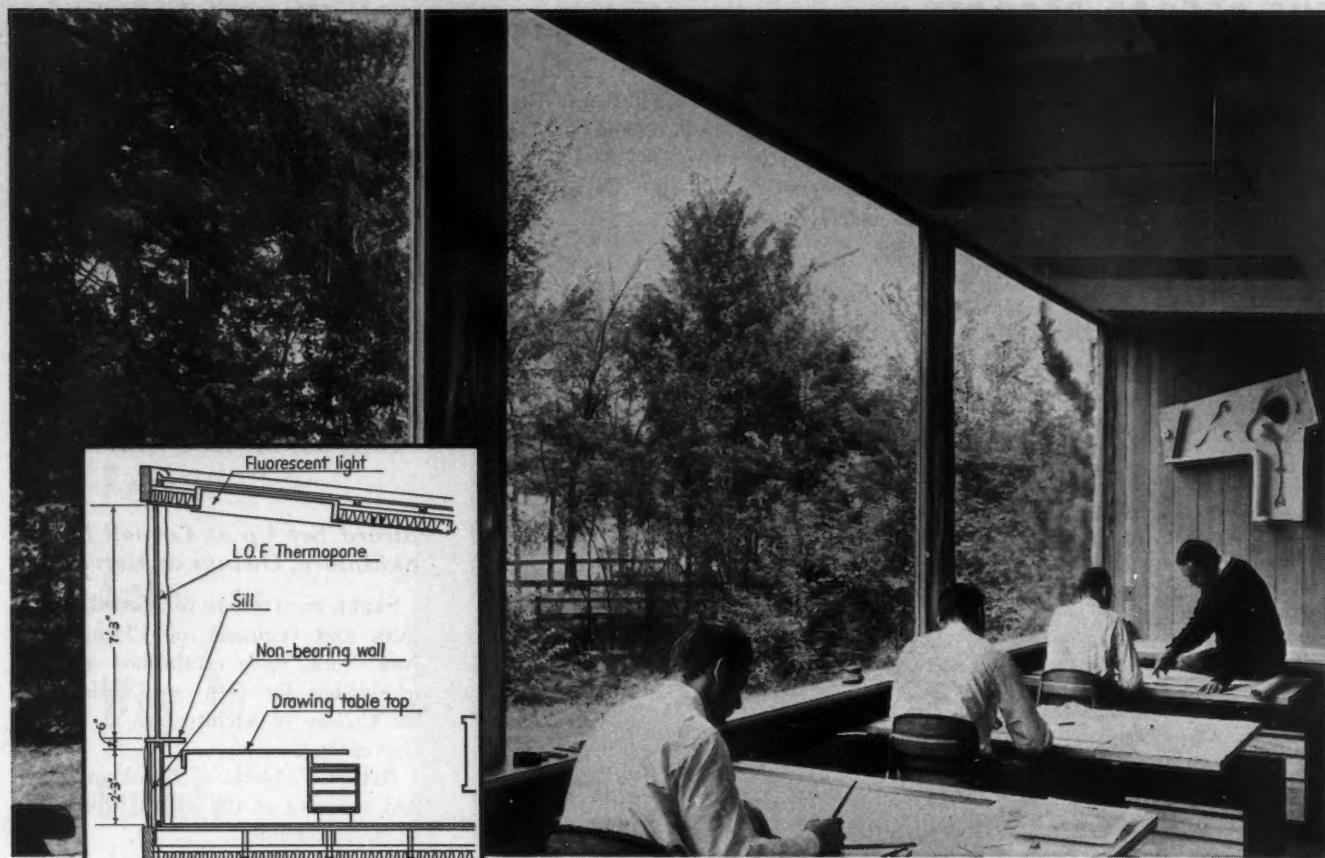
LOS ANGELES—George E. Tupper, 1010 W. Olympic Blvd., Tel. Prospect 0924.

NEW YORK—Fred G. MacKenzie, 107 Reade St., Tel. Barclay 7-6852.

PHILADELPHIA—G. Norris Williams, 211 Greenwood Ave., Wyncoate, Pa., Tel. Ogontz 1929.

SEATTLE—S. G. Kirkland, 845 Bellevue Ave., North, Tel. East 8855.

WASHINGTON, D. C.—L. B. Anderson, 4318 Rosedale Ave., Bethesda, Md., Tel. Oliver 4873.



The drafting room in the guesthouse-office designed by Harris Armstrong, AIA, of Kirkwood, Missouri, for his own firm.

How This Architect Designed ...for His Own Business

Here an architect has designed a perfect use of *Thermopane** insulating glass. The north side of his drafting room is a seven-foot window wall. By seating his staff close to the windows, he provides them the benefit of top light. Yet the men remain comfortable and free from winter chilliness. *Thermopane* with $\frac{1}{2}$ " hermetic air space, provides approximately twice the thermal insulation of single glass.

Harris Armstrong writes, "Thermopane in the other areas is not so important (for personnel comfort) but was used for economic reasons. Since I use electric

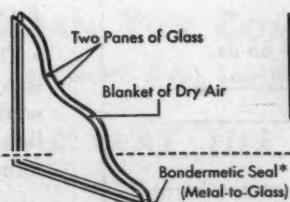
heat and cooling, the additional cost will probably pay for itself in a very few years in reduced power bills.

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THE RECORD REPORTS

(Continued from page 198)

Warren A. Peterson Wins \$150 Sargent-Yale Prize

Warren A. Peterson of Jamestown, N. Y., a student in the Yale Department of Architecture, has been named first prize winner of the Sargent-Yale prize for his design of an exposition booth.

Mr. Peterson received a prize of \$150 for his work. Other prize winners were: Francis Kwai Hong Mah, of Honolulu, Hawaii, who received second prize of

\$100; and Arnold Mogensen of Denver who received third prize of \$50.

The prize was open only to students registered in the Yale Department of Architecture.

Fabric Exhibit Is Held At Dartmouth College

An exhibit of decorative textiles, organized by Mrs. John W. Le Sourd, as-

sociate of Dorothy Jackson — Interiors, of Boston, was held in the Carpenter Gallery, Dartmouth College, during November.

The exhibition coincided with Modern House Day, a showing of seven modern houses by Architects E. H. and M. K. Hunter. Leading designers, artists, architects and industrial designers were represented.

Included were fabrics from Hambro House of Design, Dan Cooper, Ben Rose, Knoll Associates, Arundel Clarke, Bonnier's, Schiffer Prints, Brunswig et Fils, F. Schumacher, J. Morley Fletcher and Laverne Originals.

Award Set Up at Cornell by Skidmore, Owings & Merrill

Skidmore, Owings & Merrill, architects and engineers of Chicago and New York, have established a \$1000 scholarship for fifth-year students in the College of Architecture at Cornell University.

Robert F. Gatje of Brooklyn is the first recipient of the award, which will be made annually.

The new scholarship is awarded primarily on the basis of academic performance and professional promise.

Nathaniel A. Owings of the firm is a graduate of Cornell's College of Architecture, class of 1927.

Scholarships, Fellowships

The Department of Landscape Architecture of Harvard University's Graduate School of Design has announced a scholarship equal to the full tuition fee of \$600 for the academic year 1951-52. Inquiries must be received before Jan. 1, 1951.

The scholarship, open to those eligible for admission as regular students in September 1951, will be awarded on the basis of scholastic standing and evidence of interest in the field of landscape architecture.

Detailed information is available from: The Chairman, Department of Landscape Architecture, Robinson Hall, Harvard University, Cambridge 38, Mass.

Faculty Appointments

The College of Architecture and Design at the University of Michigan announces the following appointments to its staff: William Muschenheim, A.I.A., formerly of New York City, M. Arch.,

(Continued on page 204)



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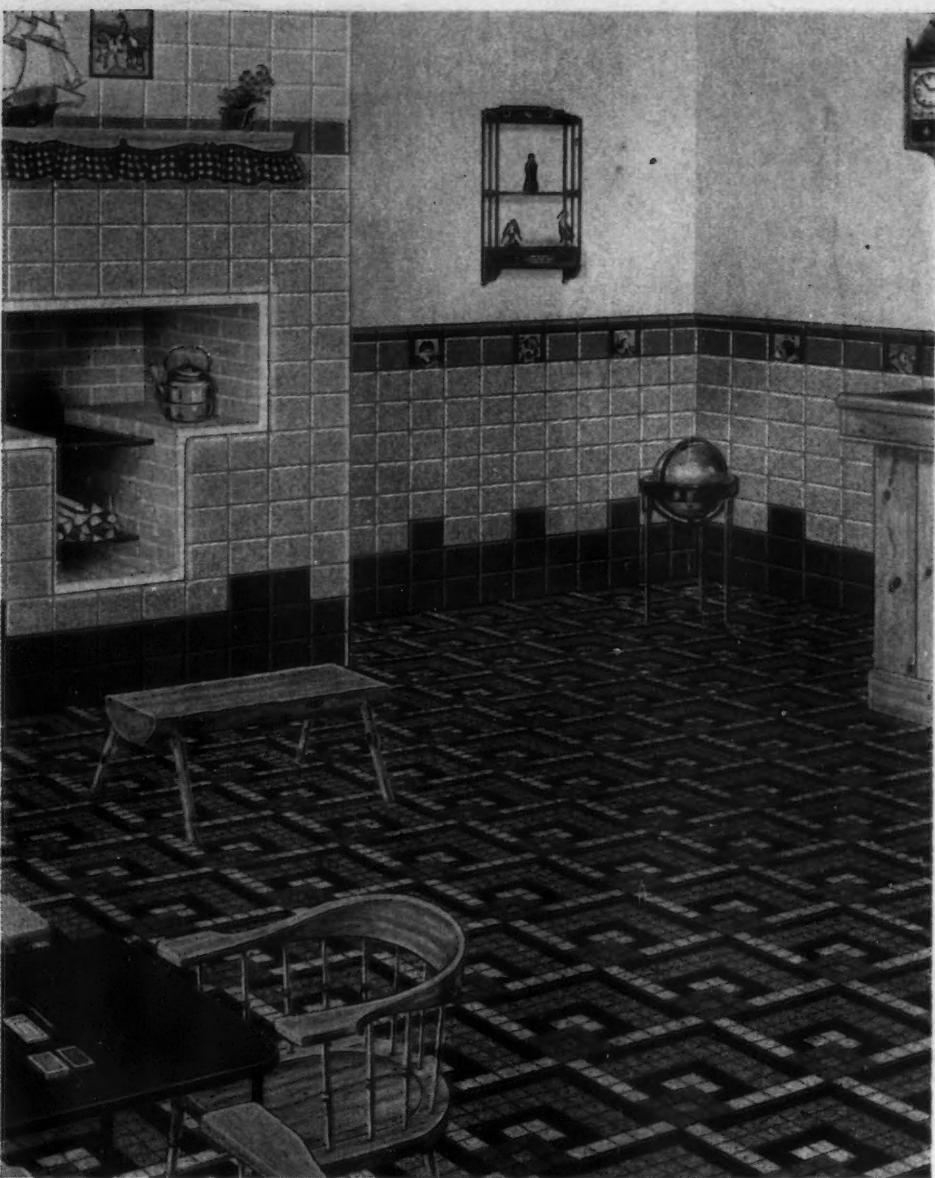
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34

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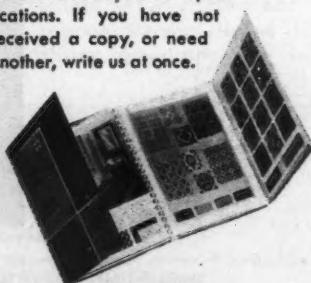
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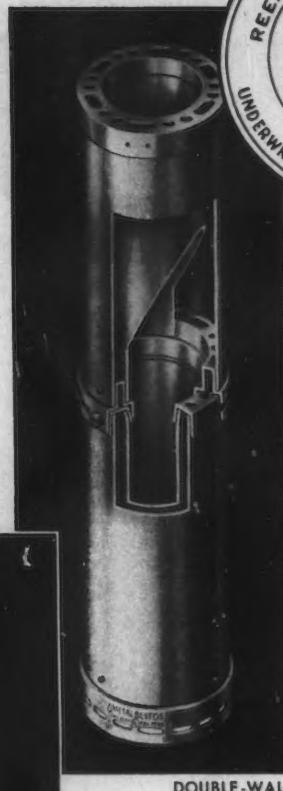
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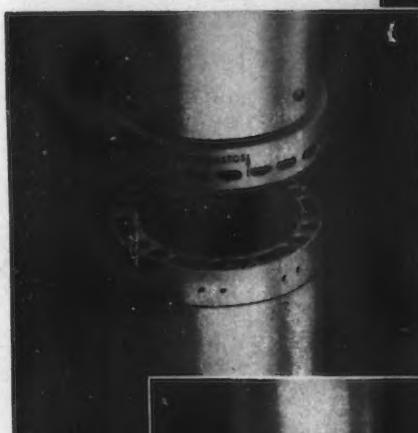
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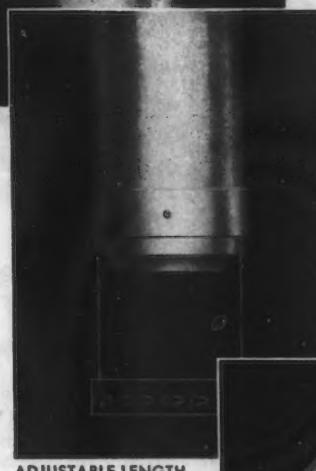




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THE RECORD REPORTS

(Continued from page 204)

COMPETITIONS

Tile Council Sponsoring Two Student Competitions

Two architectural design competitions open to students throughout the United States have been announced by the Tile Council of America, in cooperation with the Beaux Arts Institute of

Design. Six awards, totaling \$325, are offered.

One competition requires a design for a group of garden apartments, and the other requires a sketch plan for a public swimming pool. In both contests, special attention is to be given to use of real clay tile.

The competitions close December 23. They will be judged the second week in January. Details are obtainable from

the Beaux Arts Institute of Design, 115 E. 40th St., New York 16, N. Y.

NESA Holds Contest for Design of Electric Sign

Ten cash prizes totaling \$1000 will be awarded to winners of the fifth annual Electric Sign Design Competition, sponsored by the National Electric Sign Association.

Prizes will be given for the best electric sign designed for a specific industrial plant, which was selected to provide equal opportunity for all contestants. A photograph, location map and dimensions of this medium-size, modern factory building are shown in the contest rules, which may be obtained from the NESA, 224 S. Michigan Ave., Chicago 4, Ill.

The contest closes December 31. Awards will be made as follows: first, \$500; second, \$200; third, \$100; fourth, \$50; six honorable mentions, \$25 each. Winners will be announced at the NESA annual convention in February.

AWARDS

Lincoln Foundation Makes Awards for Bridge Design

Awards of \$10,750 in its 1950 Welded Bridges of the Future Program have been announced by the James F. Lincoln Arc Welding Foundation.

Thirteen engineers and bridge designers participated in the program — design of an all-welded 250-ft highway bridge — and entries were received from 16 different countries.

James H. Jennison, 39, of Pasadena, Calif., head of Development Engineering Division, U. S. Naval Ordnance Test Station, received the first award of \$5000. Second award of \$2500 went to Ernst Amstutz of Zurich, Switzerland. The Third Award, \$1250, was given to Prof. Thomas C. Kavanagh, 38, professor of Civil Engineering, Pennsylvania State College, State College, Pa., who in the 1949 Bridge competition took first award.

Ten honorable mention awards of \$200 each went to: M. S. Zakrzewski and J. R. Daymond, Durban, South Africa; Arsham Amirian, Chevy Chase, Md.; John E. Kayser, Roseland, N. J.; J. W. Briscoe and E. R. Bretscher, Urbana, Ill.; Kazimierz Lecewicz and

(Continued on page 208)

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\$25,000.00 IN 145 CASH PRIZES

**ranging from \$100.00 to \$1,000.00 each
for the best ideas for furnishing and
decorating seven types of rooms**

All entries must be received by 5 p.m. of February 19, 1951

IN ORDER to bring to readers in 1951 stimulating ideas for furnishing and decorating various types of home interiors, the Chicago Tribune is conducting its Fifth Annual Better Rooms Competition, offering \$25,000.00 in 145 cash awards for the best ideas submitted.

Just as the Chicago Tribune's competitions in each of the past four years brought out a wealth of fresh and interesting ideas in this field of high popular interest, so the 1951 competition has been designed to set new standards of excellence in home interior fashions.

Here is your opportunity to plan one or more typical rooms just the way you would like them to be—and to win cash and nation-wide recognition for your efforts.

After the prize winners have been chosen, the Tribune, just as it has in previous years, intends to reproduce the winning ideas, or adaptations of them, in full color in the Chicago Sunday Tribune.

Everyone is eligible to compete, except employees of the Chicago Tribune and subsidiaries, members of their families, and of the Jury of Awards, which, as in the past, will be composed of authorities of recognized high standing in the field of home furnishing and interior decoration.

For complete information to help you prepare your entry, send today for your free copy of the rules which will be sent to you postpaid. The closing time is February 19, 1951. So don't delay.

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Without cost or obligation to me, please send to me by postpaid mail at the address below a free copy of the rules of the \$25,000.00 Chicago Tribune Fifth Annual Better Rooms Competition.

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THE RECORD REPORTS

(Continued from page 206)

Wlodzimierz of London and Wembley, England; John A. DeLong and A. A. Brielmaier, St. Louis; John Turner Percy, Troy, N. Y.; Sidney Rochlin, Los Angeles, Calif.; I. L. Hamilton, Lanarkshire, Scotland; Kenneth Warren Dobert, Troy, N. Y.

Designs for the program were judged by a jury of leading bridge designers, fabricators, public officials and professors of structural engineering.

Ward Harrison Honored By London I.E.S. Award

Dr. Ward Harrison, a past president of the Illuminating Engineering Society, has become the first American ever honored by honorary membership in the I.E.S. London, British counterpart of the Society in this country and Canada.

Only six honorary members are per-

mitted under the bylaws of the British society, which cited Dr. Harrison's "numerous and valuable contributions to the advancement of the art and science of lighting" in presenting his certificate of membership.

For nearly two decades as director of engineering of the Lamp Department of the General Electric Company, Dr. Harrison was in charge of the largest illuminating engineering organization in the world.

Howard S. Avery Awarded 1950 Lincoln Gold Medal

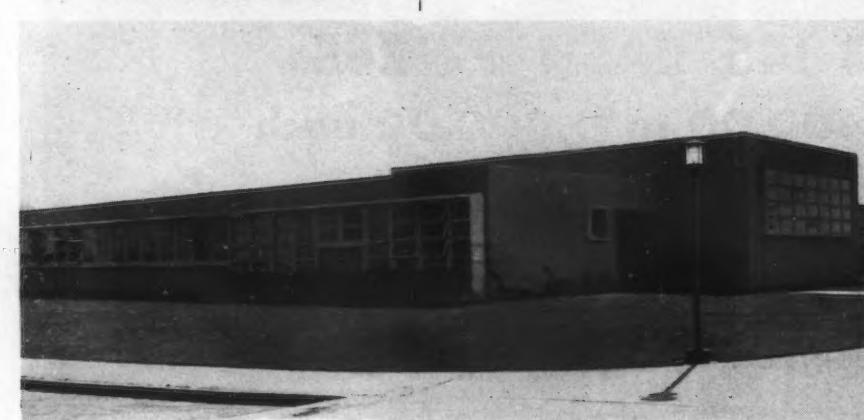
The American Welding Society has selected Howard S. Avery, research metallurgist, American Brake Shoe Co., as winner of the 1950 Lincoln Gold Medal.

This honor is awarded annually by the Society to the author of the paper judged the greatest original contribution to the advancement and use of welding.

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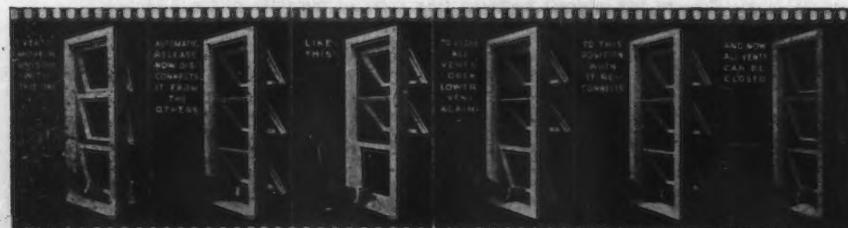


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DR. ROBERT E. DOHERTY; CARNEGIE EX-PRESIDENT

Dr. Robert E. Doherty, president-emeritus of Carnegie Institute of Technology at Pittsburgh, died October 19 at Scotia, N. Y. He was 65 years old.

Dr. Doherty, who retired July 1 as head of Carnegie Tech, was a graduate of the University of Illinois and Union College, Schenectady. He was with the General Electric Company from 1909, when he graduated from Illinois, until 1931, first as test and designing engineer and later as principal assistant to the late Charles P. Steinmetz.

At Yale University from 1931 to 1936, Dr. Doherty was first professor of Electrical Engineering and then dean of the School of Engineering, leaving that post to become president of Carnegie.

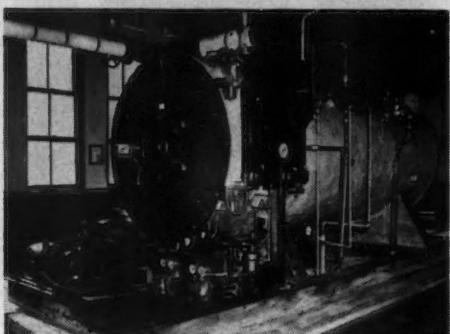
Dr. Doherty had received many honors for his work in engineering and was the author of several books. He held honorary LL.D. degrees from Tufts College and the University of Pittsburgh, and an honorary M.A. from Yale.

Another award he received was the Lamme Medal of the American Institute of Electrical Engineers, bestowed for his extension of the theory of alternating current machinery and his skill in introducing the theory into practice.

He was credited with having played a leading part in developing the high tension electrical system.

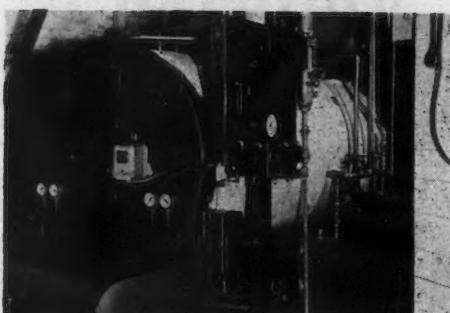
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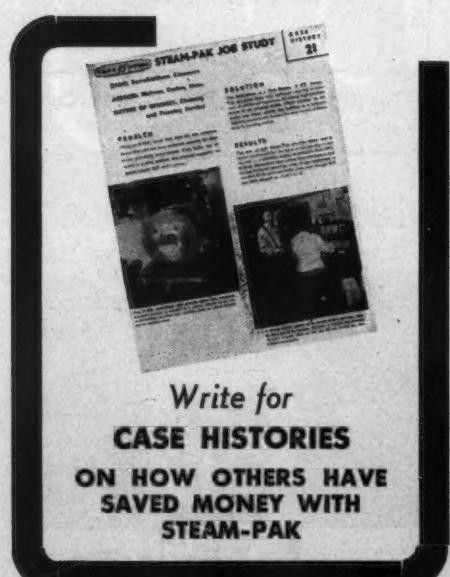


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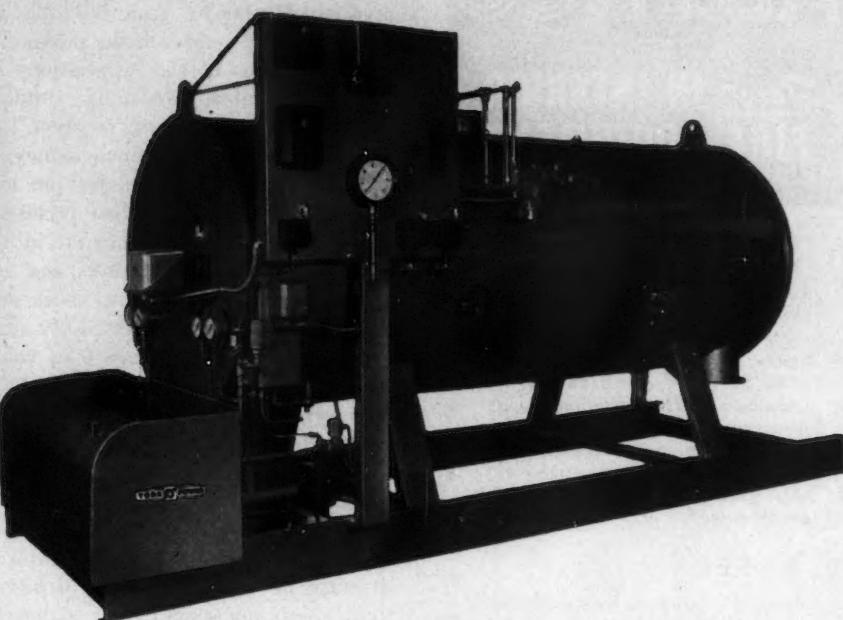
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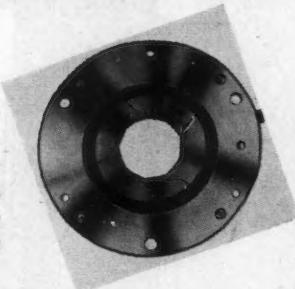


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THE RECORD REPORTS

CANADA

(Continued from page 16)

marked off year by year, but only in terms of many years. On the provincial level, programs of the Associations in British Columbia, Manitoba, Ontario and Saskatchewan deserve mention.

"Regardless of how much money is available, stress is always laid on the necessity of each individual architect doing a good public relations job in his daily contacts. Most chapters and associations do not hesitate to speak out on matters of public interest. They urge their members to participate in community affairs, accept positions of responsibility in projects designed to benefit their fellow citizens.

"Partial or full use of press or radio facilities are characteristic of the majority of programs. Better press relations and methods of securing more complete coverage of architecture and architectural events are sought, with radio efforts usually confined to free broadcasts of the public service type. Preparation of exhibitions, establishment of speakers' bureaus, and publication of pamphlets for controlled or common distribution are other common activities."

Nine Months' 1950 Building Nearly at Total for 1949

Construction contracts awarded in September helped swell the total for the first nine months of 1950 to over \$1 billion, or little less than the amount recorded for the entire year of 1949.

Figures from MacLean Building Reports Ltd. show that residential, commercial and institutional contracts continued to increase. But the biggest rise, both dollar- and percentage-wise, was in engineering projects. They soared \$9.1 million this September over last, an increase of 96 per cent.

Defense Plans Underscored By Government Appointment

Determination of the federal government to swing a scythe on non-defense construction is seen in the appointment of R. G. Johnson as special consultant to Canadian Commercial Corporation. This Crown company is charged with responsibility for all spending in connection with the national safety.

(Continued on page 212)



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THE RECORD REPORTS

CANADA

(Continued from page 210)

Mr. Johnson, who is well known as general manager of the Canadian Construction Association, will assist in the development of a gigantic defense building program. Its urgency and magnitude are emphasized by estimates that retrenchment on non-defense construction may run as high as \$500 million. The full amount will not be known till the government closes its books for the 1950-1951 fiscal year on March 31.

A call for cooperation was made by Mr. Johnson soon after Trade Minister Howe announced his appointment. "It is going to take a real effort," he said, "to meet the defense needs as well as carry the heavy load of civilian construction requirements."

High Urban Growth Costs Are Forecast in Next Five Years

Larger Canadian municipalities will spend about \$560 million to expand basic services during the next five years, according to David B. Mansur, president of the Central Mortgage and Housing Corporation.

Average natural growth in communities of 5000 population or over is estimated to be slightly better than three per cent annually or about 16 per cent by the end of 1955. Services will have to be provided on the basis of one acre per 100 of present population. Cost of servicing is put at \$80 per capita of present population, or about \$8000 per acre.

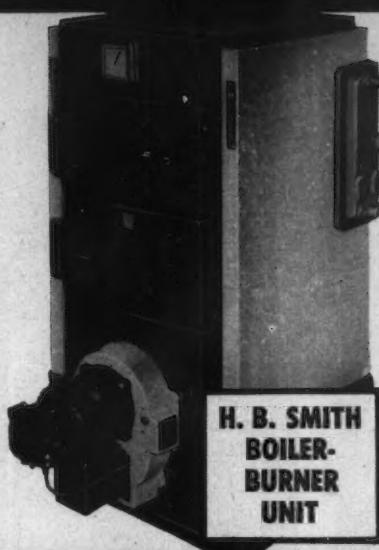
(Continued on page 214)



Photo: Everett Roseborough

Toronto's Small Fry Restaurant uses traditional materials — brick, wood, glass — in a new way. Gordon Adamson, Architect

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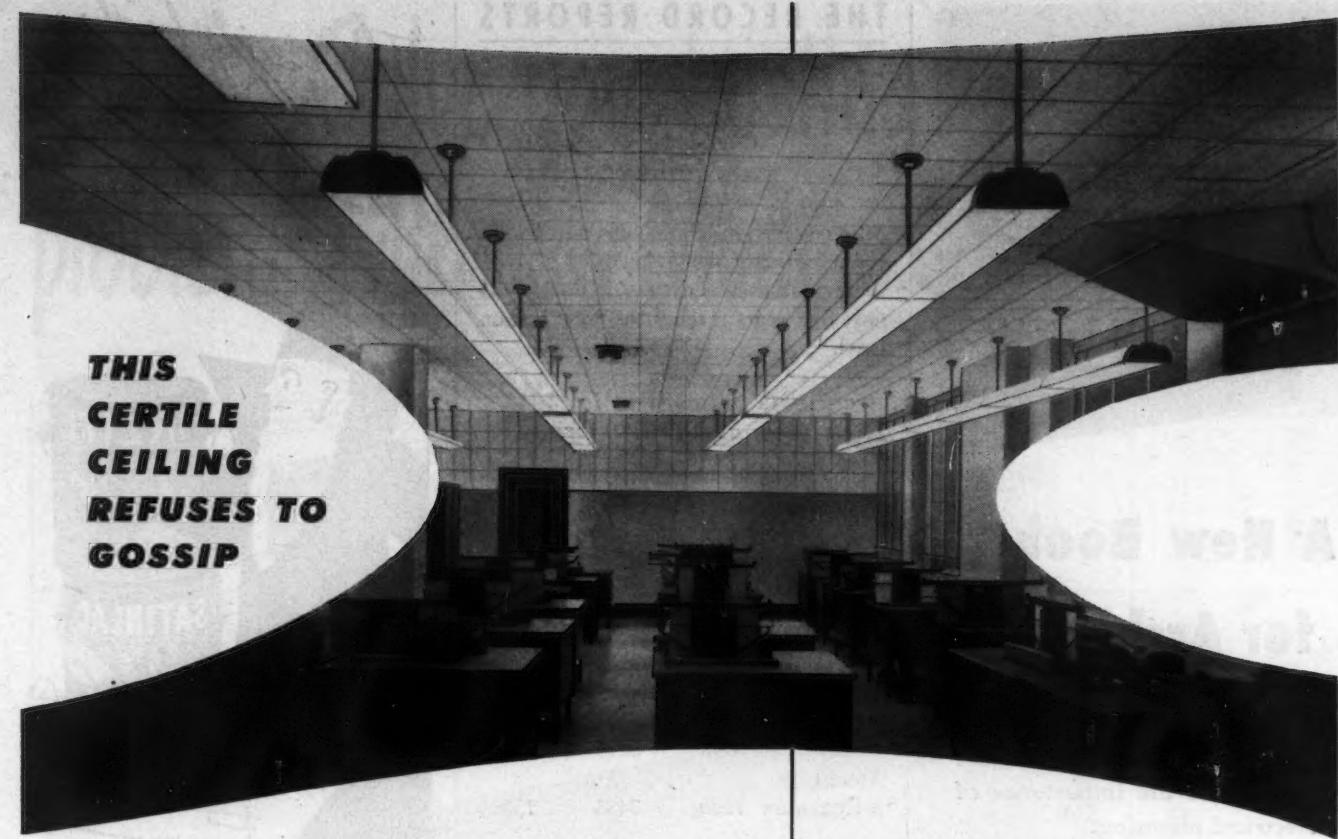


LOTS OF HOT WATER!

The completely automatic oil burner, built right into the boiler, will give trouble-free service. Tank or tankless domestic water heater.

Here's low-cost comfort and convenience, ready right now! Complete data in Sweet's Architectural Catalog.

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CAST IRON BOILERS
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WESTFIELD, MASS.
Most complete line in the world of cast iron boilers for heating



**THIS
CERTILE
CEILING
REFUSES TO
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It keeps everything it hears to itself—all the chatter and clatter, the pangs and bangs of a machine-ridden office are absorbed quickly and quietly by its famed Fiberglas* ears.

While CERTILE's absolute refusal to pass on office gossip is its most popular characteristic, it has many other qualities that make it *far more than just another acoustical tile*.

Examine this checklist of CERTILE characteristics. It invites comparison.

CHECKLIST	CERTILE	OTHER
Converts sound into mechanical energy	✓	
Converts sound into thermal energy	✓	
Incombustible	✓	
Washable	✓	
Repairable	✓	
Applied by cementing	✓	
by screw attachment	✓	
by suspension system	✓	
High insulation	✓	
75% light reflection	✓	
Painted bevels	✓	
Moisture resistant	✓	
Waterproof and shrinkproof	✓	

CERTILE is available in perforated and plain surface, in $\frac{3}{4}$ " and 1" thicknesses, in 12" x 12" and 12" x 24" slabs.

Where low-cost, fire-safe acoustical installation is wanted, CERTACOUSTIC tile is ideal. It, too, contains Fiberglas base. It has most of the fine qualities of CERTILE.

Approved acoustical applicators are available for consultation and advice. Contact one of the district sales offices for the name of the applicator in your area.

*Trade-Mark Reg. U.S. Pat. Off. by Owens-Corning Fiberglas Corporation



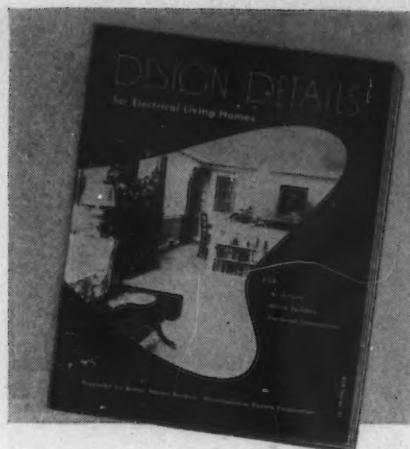
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A New Book for Architects

The increasing use of electricity throughout the home emphasizes the importance of electrical planning.

To help with your planning, those electrical features that have won wide public approval have been incorporated in this "Design Details" book.

It fills a real need for construction details on valance, cornice, cove, soffit, pinhole spot, under-cabinet and other unusual lighting effects. Kitchen and laundry plans are also shown, as well as essentials of modern wiring. Photographs of actual installations illustrate these planning ideas. Architectural details are accurate and complete.

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City _____ State _____
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THE RECORD REPORTS

CANADA

(Continued from page 212)

Since seven million people now live in communities of 5000 population or over, the overall cost of expansion during the next five years reaches the \$560 million total.

Architects' Incomes in 1948 High Among Canadian Groups

The Department of National Revenue reports that in 1948 architects and engineers constituted the third highest income group in Canada. Only doctors and lawyers earned more money.

Here's a detailed breakdown:

Category	Number	Average Income	Average Tax
Lawyers	4060	\$8309	\$1963
Doctors	6990	8274	1786
Architects			
& Engineers	1200	7455	1554

Trailing architects and engineers were dentists, osteopaths and chiropractors, business partners, investors, sole business proprietors and salesmen. As in previous years, nurses were at the foot of the list. There were 3250 of them in 1948 with an average income of \$1381. They paid an average tax of \$79.

Engineering Enrollments Show Decline for 1950-51

Enrollments in Canadian universities for 1950-51 show a downward trend, according to a recent announcement by Hon. Milton F. Gregg, Minister of Labor. This is to be expected, he explains, because for the past few years classes have been swollen far beyond normal capacity by thousands of war veterans.

One of the faculties hit is engineering (which includes architecture). The annual number of engineering graduates has risen from about 400 in 1921 to approximately 3600 in 1950. It is estimated that this figure will decline to about 1100 in 1955, then gradually increase to about 1200 in 1960.

Minister Gregg points out that in dealing with figures for engineers, the variation in the employment market between branches of engineering may be overlooked. As examples he cited mining engineering as a branch which would be likely to have a shortage of graduates in the next few years, while electrical engi-

(Continued on page 216)

They're aids for the
Architects...

THESE WIZARDS WITH WOOD



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For stained "natural" effects — Firzite tames the garish wild grain; assures even absorption of stain, hence a subdued rich appearance.

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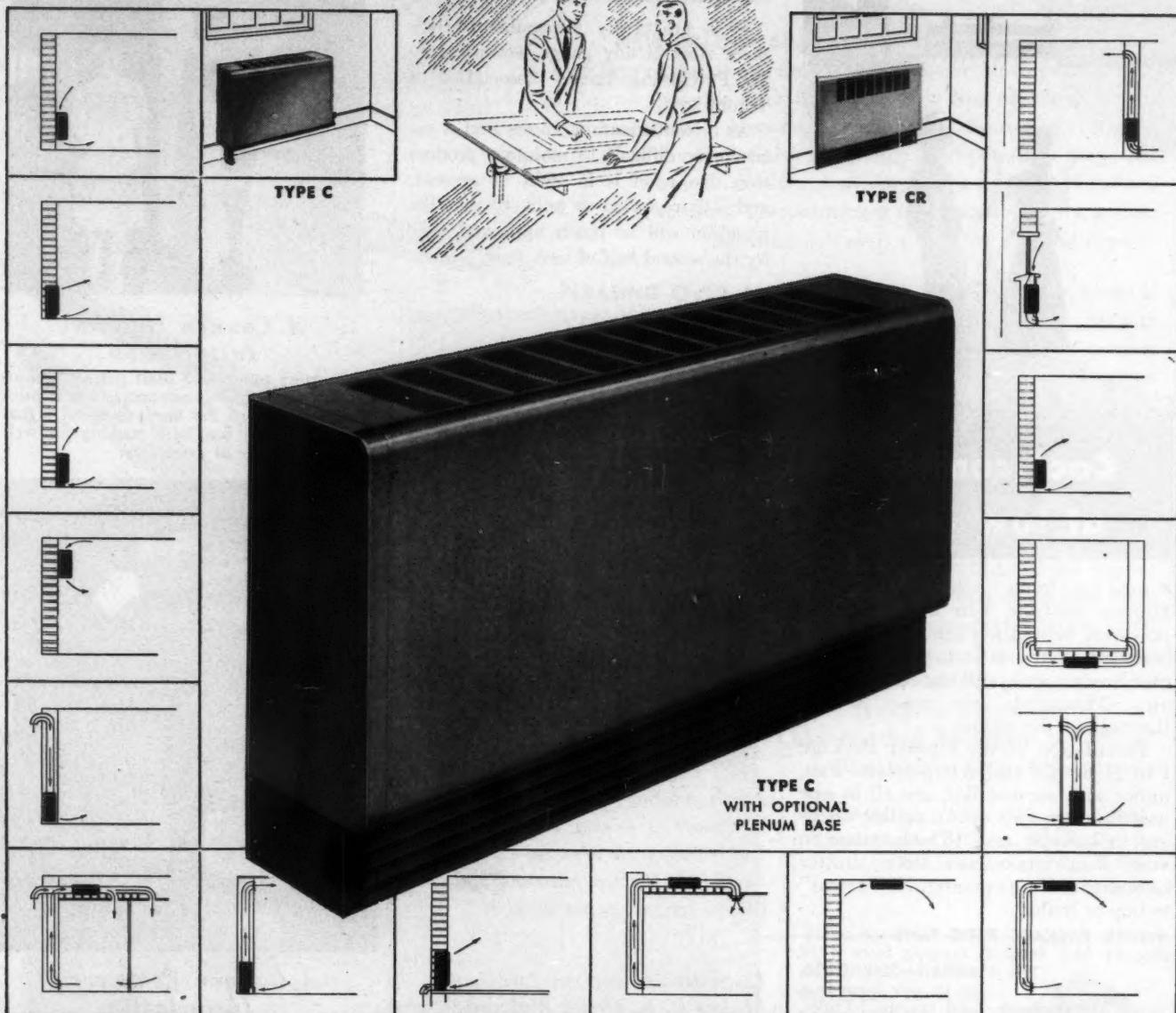
To bring out and preserve the natural grain and beauty of any wood, plywood or solid wood, hardwood or soft, use Satinlac. To avoid that heavy, "built up" finish, use Satinlac. Newer than shellac or varnish; water-white; and will not turn yellow.

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Hunter PACKAGE ATTIC FANS

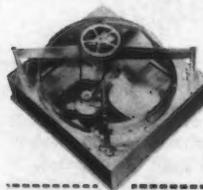


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at low cost!**

Low cost home cooling is here! The Hunter Package Fan is a compact, powerful ventilating fan that is easily installed in any attic to pull in fresh, cool breezes and push out stale, humid air. Thousands are now in use throughout the nation.

Installation of the Hunter Package Fan is simple and inexpensive. Fan, motor and suction box are all in one unit that requires only a ceiling opening in hallway and 18" clearance in attic. Fan rests on attic floor; shutter fastens to ceiling opening. No "extras" to buy or build.

HUNTER PACKAGE ATTIC FANS are available in four models, ranging from 4750 CFM to 9500 CFM, to fit any home size and climate. Quiet, powerful and dependable. Manufactured by Hunter, exclusive fan makers since 1886.



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Send free copy of "How to Cool for
Comfort" to:

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THE RECORD REPORTS

CANADA

(Continued from page 214)

neering, which had been the most popular choice of veteran students, appeared likely to show a slight surplus for the time being.

Steel Remains Short

It is practically impossible to buy sheet steel in any gauge, according to the Purchasing Agents' Association of Toronto.

As a result, manufacturers find it exceedingly difficult to maintain production. No relief is in sight at present, and it is regarded as unlikely that the situation will be much improved even by the second half of next year.



Photo: Aluminum Company of Canada, Ltd.

Aluminum facing is used in an unusual way to achieve a striking storefront for Tip Top Tailors, made-to-measure clothiers, in Vancouver. The firm has many branches. Claude Logan was the designer.

U. S. Hesitation on Lumber Makes U. K. Order Welcome

Another big United Kingdom lumber order, the second within a month, has been placed in British Columbia. It's for 90 million board ft, valued at roughly \$10 million.

Operators are jubilant, since pileups have been beginning to show in some grades and prices have dropped as much as \$15 per 1000 ft on both sides of the Canadian-U. S. border. Chief reason for decline has been the "scared" feeling

(Continued on page 218)

SIGNAL SYSTEMS

hospital commercial



A Cannon Hospital Installation

...arrows point to 3 digit paging annunciator, nurses' lamp annunciator and pilot lights, a few of the many hospital signal items Cannon has been making for well over a quarter of a century.

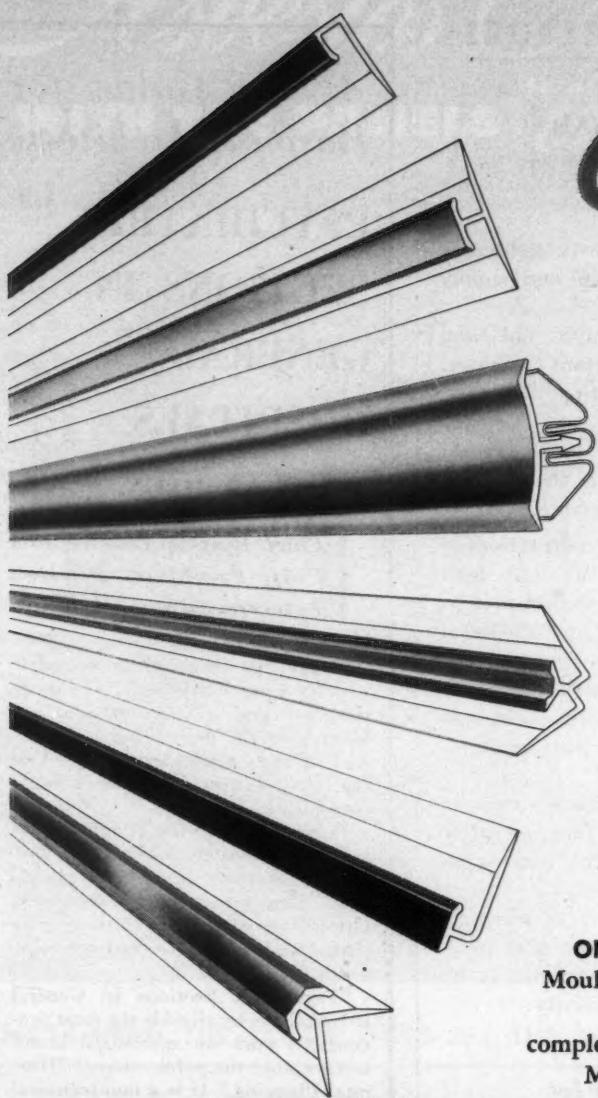


A Cannon Commercial Installation

...arrow points to lamp annunciator above restaurant door used to signal waitresses as orders are ready. Other commercial installations include department stores, industrial plants, offices, etc.

Write to Cannon Electric Development Company, Division of Cannon Manufacturing Corporation, 3209 Humboldt St., Los Angeles 31, Calif. or contact one of the 28 Cannon representatives located in principal U. S. A. cities. Canadian plant and offices: Toronto, Ontario. Export: Frazar & Hansen, San Francisco, New York and Los Angeles.

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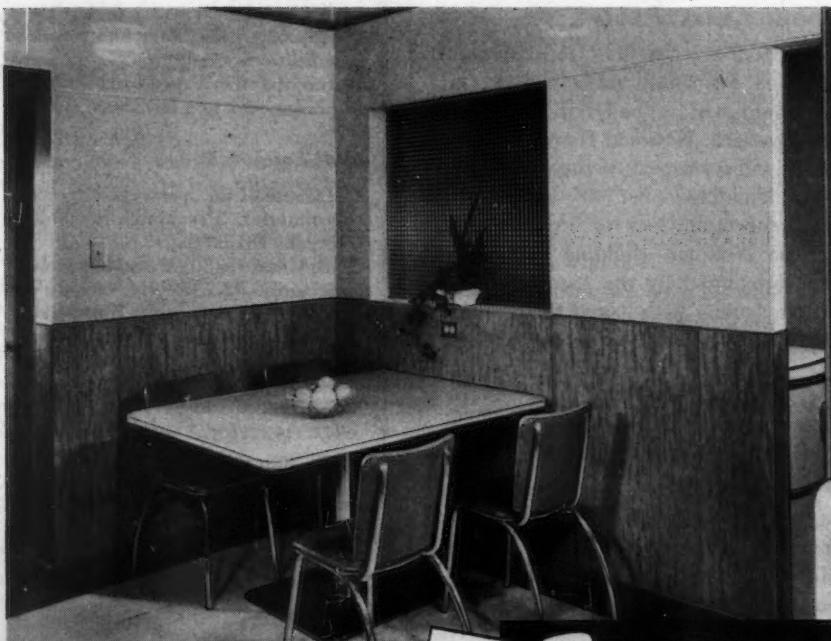
for Marlite

NEW COLOR HARMONY for Marlite walls and ceilings in every type of residential and commercial interior is now possible with this brand-new line of Marsh Color-Matched Aluminum Mouldings! Featuring the same durable plastic finish as genuine Marlite panels, they need only an occasional wiping with a damp cloth to keep them spotless. The permanent finish *seals out* dirt, grease, moisture . . . seals in all the striking beauty!

PLEASING OVER-ALL EFFECTS—A complete color range is available to match all standard Deluxe and Velvetex Marlite colors.* Exact matching makes Marlite walls present smooth, beautiful, uninterrupted color. And where contrast is desired, the new Color-Matched Mouldings give free reign to your design ideas.

ONE FOR EVERY COLOR SCHEME—With the new Color-Matched Mouldings for Deluxe and Velvetex Marlite, there is now a Marsh Moulding for *any* interior treatment. Special Mouldings complement Wood Pattern and Marble Pattern Marlite, and the regular Marsh Aluminum Alloy Mouldings are available to suit those customers who prefer bright metal trim. Now you can plan Marlite interiors that will please the most fastidious clients—with Marsh Color-Matched Aluminum Mouldings! Mail coupon for complete details.

*Yellow, Cream (Eggshell), Blue, Coral (Suntan), Green, White, Persian Red, Pearl Gray, Royal Blue, Black and Maroon.



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answers



to Tomorrow's NEW Problems

Now that priorities, allocations, cut-backs, and other essential restrictions have returned to the industrial scene, the heating, ventilating, and air-conditioning picture is certain to undergo significant changes in the days to come — to pose new problems for architects, consulting engineers, and contractors. That is why attendance at this foremost Exposition of its kind — largest ever staged — takes on greater importance and timeliness than ever. The wealth of first-hand information available here on latest developments, newest trends, available equipment and supplies, and sources of supply, may prove to be an invaluable business asset for the uncertain times ahead.

Over 300 exhibitors with their technical representatives will be on hand to show and tell what the future offers for heating, ventilating and air conditioning in all types of commercial and public buildings, industrial plants, and homes. In no other way can so many helpful ideas and valuable contacts be obtained, and so much equipment seen and compared in so little time . . . all so essential to solving tomorrow's new problems.

So plan now to take advantage of this big opportunity. Note the dates.

Auspices of the American Society of Heating & Ventilating Engineers

Management International Exposition Company

THE RECORD REPORTS

CANADA

(Continued from page 216)

of west coast builders over tightening credit controls and labor and supply lines.

"Americans don't blow hot and cold," says one important exporter, "they go torrid and freezing!"

Construction Is High On Invested Capital Return

Detailed information on operations of Canadian industry in 1948 have been made available by the Department of National Revenue. The figures are based on income tax returns for that year.

The construction industry showed the highest return on invested capital. It also showed the biggest increase in return from the 1947 level.

In addition, the industry displayed the biggest margin of profit — before taxes — in 1948, and the biggest increase in margin over 1947.

These remarkable achievements reflect the postwar expansion and modernization programs carried on in all phases of construction activity.

House Building Code for Small Cities Published

A "Code for Dwelling Construction," designed for small municipalities, has been published by the Division of Building Research, National Research Council. It will form part of the revised National Building Code.

All subcommittees for further studies on the National Building Code have been appointed by the Associate Committee dealing with it and their work is expected to be in full swing early in 1951.

Planning Act Violation Brings Fine to Vendor

Maximum penalty for contravention of the Ontario Planning Act was imposed for the first time when Magistrate Earl Hand of Islington levied a fine of \$500 on the vendor of six parcels of land who failed to secure prior approval of the local planning board.

The sale came to light when purchasers found they were refused building permits because their lots did not front on a registered road.

A New Guide for Hospital Architects

PSYCHIATRIC SECTIONS IN GENERAL HOSPITALS

By PAUL HAUN, M.D.

Chief, Hospital Construction
Unit, Psychiatry Division
Veterans Administration

Today, no hospital is complete without a psychiatric unit. The problem, however, is a complicated one because in the design and construction of such a unit every aspect of the environment must be strictly controlled.

Fortunately, all the architect need know is completely outlined in "Psychiatric Sections In General Hospitals." Here are specific, reason-why, instructions covering everything from shafts and stacks to hydrotherapy suites.

"Psychiatric Sections In General Hospitals" is by all odds the most provocative work on specialized architecture since the publication of "Hospital Planning." It is a non-technical book for technical men; one that gives, for the first time, clear and reasoned specifications on a branch of architecture that has leaped from obscurity to prominence in a few short years.

Mail Coupon Today

Because of the specialized nature of this material, "Psychiatric Sections In General Hospitals," just off the press, is not readily available at most book stores. So use the coupon below to send for your copy today. Price \$4.00, including postage.

ARCHITECTURAL RECORD

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Enclosed is \$ for which send copies of "Psychiatric Sections in General Hospitals," by Paul Haun, M.D., bound in cloth, at \$4.00 per copy. (Add 2% Sales Tax for New York City deliveries.)

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Asbestos Movable Walls

WITH THE PANELS "integrally colored"



NOTE HOW THE COLOR GOES ALL THE WAY THROUGH!

No paint to wear off, chip, or peel...

A totally new and important feature has been combined with the basic advantage of *flexibility* in J-M Movable Wall construction.

Johns-Manville scientists have perfected a process for introducing inorganic pigments throughout the asbestos panels used in J-M Movable Walls.

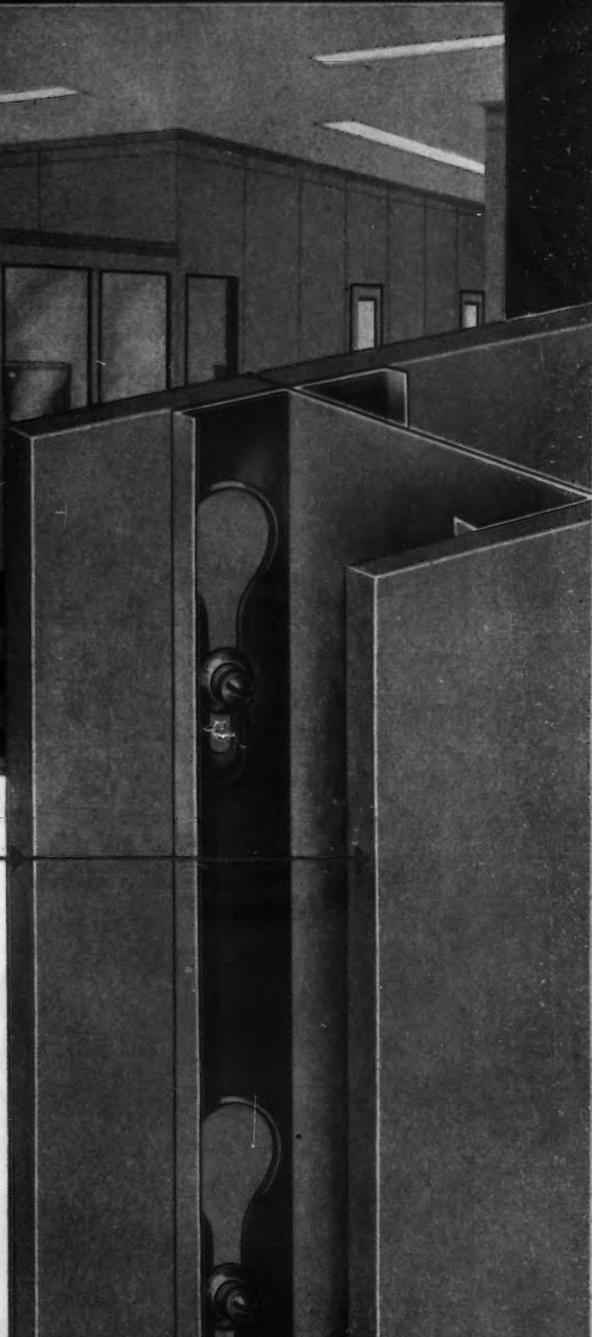
As a result, these beautifully-textured, fireproof panels are now "integrally colored" at the factory. That of course means the color is not a painted or baked-on surface coating; it is an *in-*

trinsic part of the structural material—goes *all the way through* each panel.

With no paint to wear off, chip, or peel, your walls will have that "first-day newness" *every day* for years and years to come!

By eliminating the cost of periodic painting and decorative treatment, the new Transitone Movable Walls will help you to meet your wall-and-partition requirements *economically*.

Transitone panels are hung on steel studs, forming a 4" double-faced partition. Also used as interior finish for the outside walls. Lighter than ever, they are readily installed or re-located. For details or an estimate, write Johns-Manville, Box 290, New York 16, N. Y.



Cutaway of J-M Movable Wall construction. The 7/16"-thick asbestos panels, on patented steel studding, are available in a light tan or light green. Note color is not a surface coating; it actually goes *all the way through* each panel.

Johns-Manville

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Transitone

MOVABLE WALLS with asbestos panels colored all the way through

This is an
INLAND
HI-BOND
Reinforcing Bar

It not only meets but exceeds the minimum standards set up by ASTM A305-49. Its proper ratio of bearing to shearing area provides greater bond between the steel and concrete thus providing more efficient transfer of stress at splices and reducing the size of tension cracks. This means a more efficient and better looking structure.

It saves your client's money. In many instances, end hooks can be completely eliminated which means a saving in steel, fabricating and placing costs. Because a single wire loop holds HI-BOND firmly in place—even during pouring of concrete—there are savings in wire and tying time.

It is available for prompt shipment from the Ryerson Company and other leading steel warehouses throughout the middle and far west.

It costs no more than ordinary reinforcing bars! Specify Inland HI-BOND—the reinforcing bar with the built-in anchorage.

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THIS can be said of no other gift: When you give books you give inspiration, guidance and hours of delightful respite from the cares which occasionally beset us all. And no other gift so faithfully conveys your thoughtfulness.

On the following pages, we have described and illustrated a number of books tailored to the interests of architects, engineers, contractors, technicians — just about everybody in the building field!

Some, such as "Time Saver Standards," are essentially technical; others are more general

in treatment and content. There are how-to-do-it books, cultural books and books plainly meant for nothing more than sheer relaxation.

There's something for everybody . . . something appropriate to the mood, mind and mien of all your friends.

Take advantage, now, of this convenient and thoroughly satisfactory solution to the Xmas shopping problem. Treat yourself, too! Simply mark your selections, attach your check and return the coupon to ARCHITECTURAL RECORD. Avoid the last-minute rush. Act TODAY.

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See following pages for titles,
contents, other details 

Announcing... New, Enlarged Edition of
**Time-Saver
Standards**



Now on the press, for immediate delivery, is a brand new edition of TIME-SAVER STANDARDS — a gigantic volume of 888 pages containing all of the old edition *plus* 232 pages of new standards never before published in book form.

A grand total of 319 different Time-Saver Standards... 888 pages... more than 1,000 illustrations, charts and diagrams.

The publication of the first edition of Time-Saver Standards was an event of first magnitude in the architectural field. It has been acclaimed by thousands of architects the country over... is in current use as a standard text in more than fifty architectural schools.

Now, in its enlarged form, and containing 232 additional pages of vital information it becomes more than ever an indispensable source of essential architectural data on...

ARCHITECTURAL DESIGN
ENGINEERING DATA
MATERIAL TECHNOLOGY
BUILDING PRACTICE

Designed for the use and guidance of architects, engineers, specification writers and other building technicians, this complete collection of these now famous authoritative monographs on technical aspects of construction cuts research time... offers proved-by-experience solutions to hundreds of structural problems.

Well-Organized 12-page Index

This wealth of data is carefully organized and painstakingly presented. It is so thoroughly indexed that there are references and cross-references... occupying twelve pages of closely set print.

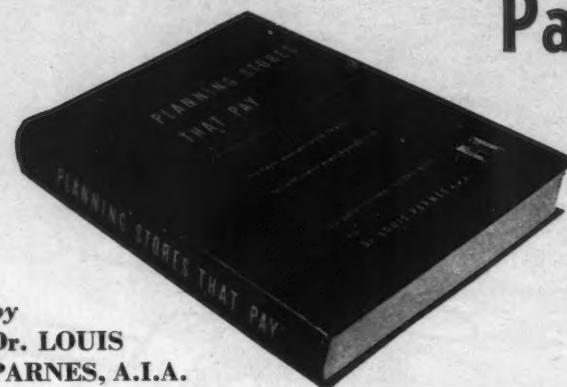
Experience shows that a single item in TIME-SAVER STANDARDS can well save hundreds of dollars in economy construction... save many hours of your valuable time.

Special Pre-Publication Offer

Although this new, up-to-date edition of TIME-SAVER STANDARDS will be almost one third larger, the regular price will be only \$12.50.

But if you place your order now — before December 31, 1950 — you can take advantage of the pre-publication price of \$10.00, a 20% saving on the regular price. But, vastly more important, you'll be sure to get your copy. The first edition was a sell-out before publication.

Planning Stores That Pay



by
**Dr. LOUIS
PARNES, A.I.A.**

In "Planning Stores That Pay," Dr. Parnes demonstrates the amazing degree to which architecture — as expressed in counter lengths, traffic flow, etc. — speeds and increases retail sales, not only for department stores but for specialty and chain stores. Point by point he conducts a tour of the store to illustrate the right and wrong aspects of profit-making design. He shows how to compute such diverse factors as, say, the ideal width of show windows and the optimum number of chairs in a shoe department.

With more than 500 illustrations, he explores every detail of the store and its arrangements — entrances, arcades, show windows, transportation systems, furniture and fixtures, receiving and shipping facilities, floor and department layouts, display arrangement and lighting, and all the hundreds of items that go to make up a modern merchandising machine. Everything is calculated from the viewpoint of efficiency, and the contribution of each part of the store to the process of selling goods profitably is the criterion of its recommended design. Diagrams, charts and scale drawings, from hundreds of leading stores and from the works of America's greatest store architects, prove each point graphically.

A Basic Textbook on Store Architecture

"Planning Stores That Pay" is a book of basic principles, but specific ideas flow from its pages in rapid succession. A single chapter has enough suggestions to launch a number of long-term projects in store layout, equipment, etc. It covers every detail of modern stores and is applicable to the redesigning of myriads of stores now obsolete. Reissued in new binding, "Planning Stores That Pay" is now available at the special price of \$10.

Prize Homes

THIS portfolio contains the ninety-two houses, including the twenty-four prize winners and sixty-eight other excellent designs, submitted in the Chicago Tribune's \$24,000 Prize Home Competition. Here the architects, unfettered by clients, and lured by \$24,000 in prizes, drop the reins and let their trained imaginations go all out. Here you fully realize what a wonderful work of art the modern home is coming to be — in terms of utility, livability, and unobtrusive beauty.

Each house is depicted on a big, white album page: first, with the architect's sketch, with prize winners in luminous full color; then with floor plans, plot plans, elevations and details; finally, with a simple text that points out the salient features.

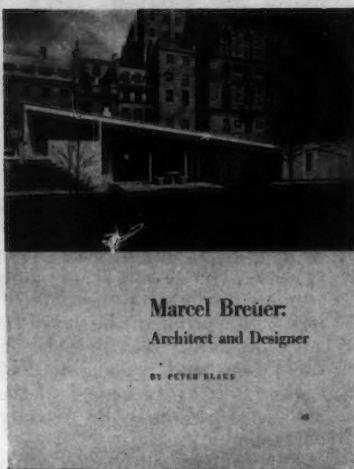
As a book for study or relaxation; as a book for gracing the living-room table; as a book for the family or friends, this is truly a dual-purpose book, easily worth the cost. De Luxe edition, \$5.00.

Marcel Breuer: Architect and Designer

by PETER BLAKE

THIS fascinating life story of the great contemporary architect, Marcel Breuer, is that rare publishing achievement—a biography which captures wholly the essence and spirit of its subject. It is a book that will strike a responsive chord in the heart of every architect and designer; it is a book that will instruct, charm and inspire you, and one which you will be proud to display on your library shelf.

Peter Blake, author of the book and Curator of Architecture and Design for the Museum of Modern Art, has drawn heavily on actual reproductions of Breuer's work to explain in terms more graphic than words the architect's growth and development. To many, this visual treatment alone will be worth many times the modest price of the book. 196 illustrations, 128 pages, 8½ x 10¾, stiff cloth binding. \$4.00

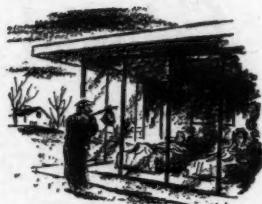


Marcel Breuer:
Architect and Designer

BY PETER BLAKE

The Last Lath

by
ALAN DUNN



"If these cartoons don't strike you as funny, then you've never built a house, or even lived in one." — *San Francisco Chronicle*.

"If a housewarming present is puzzling you, this is the answer." — *New York Herald Tribune*.

AN album of 152 cartoons on Real Estate and Building. Here is a perfect gift to give to: clients, professional friends, business associates.

For many years readers of ARCHITECTURAL RECORD have laughed at the sly and intimate cartoons of Alan Dunn, nationally famous "New Yorker" cartoonist.

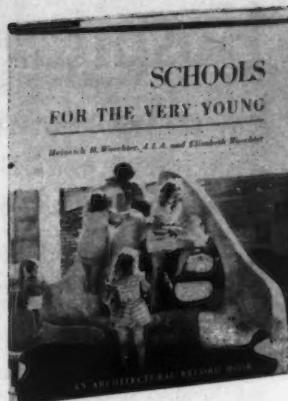
In response to repeated suggestions, we have published in one book, entitled "The Last Lath," a selection of 152 Alan Dunn cartoons (32 hitherto unpublished) on the real estate and building business.

Such cartoons, in book form, have been found the most effective, inexpensive gift of our time. They come as a big surprise. They are enjoyed by the whole family. They are shown to friends and neighbors. And the giver is long remembered for his wise and witty choice.

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Schools for the Very Young

by
HEINRICH H. WAECHTER
A. I. A. and
ELISABETH WAECHTER



THOUGH many volumes have been written about school design, "Schools for the Very Young," a brand new book just coming off the press, is — so far as we know — the first in which an architect and a child educator have collaborated to provide an up-to-date treatise on the requirements of the particular type of school demanded for the proper training of the very young child.

Beginning with a brief yet adequate historical and philosophical background, in which the development of the theory and practice of child education is discussed, the book goes on to describe the pre-school in action, noting the events of the school day and the corresponding environmental needs of the children and their teachers. A number of examples of existing pre-schools are presented with critical comment. Much detailed information is given concerning the general and particular space apportionments and arrangements called for by the activities peculiar to such institutions. Since one of the authors is especially concerned with city planning, the relation of the pre-school to its neighborhood and community is thoughtfully analyzed, and the many different types of pre-schools that have developed to meet special conditions are enumerated and explained.

The outdoor space and its proper equipment are thoroughly covered from the standpoint of a capable architect who has given much thought to the problem and who is thus aware of the many points of detail that go to make up a successful pre-school establishment. Technological problems of construction, lighting, ventilation, mechanical equipment, etc., are scrutinized in the light of the most recent practice. A wealth of illustrations add both interest and information, and a selective bibliography will aid further study.

Mr. and Mrs. Heinrich H. Waechter's combined talents and interests make them ideal co-authors for such a book as this. In 1941 the American Institute of Architects awarded Mr. Waechter an Edward Langley Scholarship for advanced work in research on the topic of "Pre-Schools" and the resultant year of combined study with Mrs. Waechter led to this thoughtful book.

You can be among the first to have a copy of this new book by placing your order now. 208 pages, 7½ x 10, stiff binding. Price \$6.50.

Landscape for Living

by
GARRETT ECKBO



A BRILLIANT and practical book by a recognized authority on landscape design.

Planned with insight and craftsmanship, "Landscape for Living" outlines the major problems in the field of landscape design and offers specific solutions.

This ground-breaking text establishes a foundation for understanding landscape design: traces its history; explains its functions; analyses developments; details principles of design and planning.

Entire sections are devoted to such basic and practical considerations as materials, plants and planting, structural elements, site conditions, parks, gardens, public buildings, group housing.

Material Presented Graphically

It devotes page after page to photographs, diagrams and textual analysis of actual gardens, parks, and public buildings. Problems are explained and solutions given.

"Landscape for Living" is a handsome book of 288 pages on heavy coated stock; contains more than 400 illustrations, including site plans, drawings, sketches. Page size 8" x 10¾". Price \$10.00.

Turn page for convenient order form →

Art Metal Provides All the DATA You Need to specify and Use **INCANDESCENT LIGHTING**

This is a typical page illustrating the complete product information presented in the new, 48-page Art Metal Catalog . . .

Explicit Data

- 99 Product Illustrations
- 51 Cross Section Details
- 47 Light Distribution Curves
- 24 Coefficient of Utilization Tables
- Detailed Product Specifications
- General Engineering Information

CANDLEPOWER DISTRIBUTION CURVES

APPLICATIONS

COEFFICIENTS OF UTILIZATION

ONE LIGHT—8½" AND 12" HOLOPHANE CONTROLENS*

These candlepower distribution curves were made with one-light units using a 150 Watt LP. Lamp.

The controlled widespread light distribution characteristic of Catalog No. 3320 provides even light distribution with units installed on spacing not to exceed one and one-quarter times the mounting height above the work plane.

The concentrating light distribution characteristic of Catalog No. 3322 provides even light distribution with units installed on spacing not to exceed one and one-quarter times the mounting height above the work plane.

These candlepower distribution curves were made with one-light units using a 200 Watt LP. Lamp. Multiply by 1.62 for 300 Watt LP. Medium Base Lamp.

The controlled widespread light distribution characteristic of Catalog No. 3321 provides even light distribution with units installed on spacing not to exceed one and one-quarter times the mounting height above the work plane.

The concentrating light distribution characteristic of Catalog No. 3323 provides even light distribution with units installed on spacing not to exceed 9 times the mounting height above the work plane.

SURFACE ATTACHED

PRODUCT

CROSS SECTION DETAILS

SPECIFICATIONS

DATA

THE ART METAL COMPANY

Approved by Underwriters' Laboratories, Inc.

• Holophane Co., Inc.

THE ART METAL COMPANY • CLEVELAND 3, OHIO

Manufacturers of Unified Lighting Equipment for Office, Store, School, Hospital and Hotel

THE ART METAL COMPANY
1814 East 40th Street, Cleveland 3, Ohio
Gentlemen: Kindly send me your CATALOG
—INCANDESCENT UNIFIED LIGHTING.

Firm _____

Name _____

Title _____

Address _____

City _____ **State** _____

There's an Art Metal Incandescent Unit for every lighting need.

Art Metal Unified Lighting, standardizes the design, style and finish of each unit, to achieve an architecturally integrated installation.

*This Specialty Shop
COMBINED
Air Conditioning
AND
Winter Heating
AND SAVED 38%*
*by using a
DRAVO COUNTERFLO
HEATER*



DRAVO
CORPORATION
DRAVO BUILDING, PITTSBURGH 22, PA.



Dravo also manufactures the DRAVO CRANE CAB COOLER for air conditioning hot-metal crane cabs.
PITTSBURGH • CLEVELAND • PHILADELPHIA • DETROIT • NEW YORK • CHICAGO • ATLANTA • BOSTON
Sales Representatives in Principal Cities. Mfd. and Sold in Canada by Marine Industries, Ltd., Sorel, Quebec
Export Associates: Lynch, Wilde & Co., Washington 9, D. C.

It's accepted as a merchandising "must" that better stores today have to provide summer air conditioning for customers as well as winter warmth . . . and the new Bramson Specialty Shop in Evanston, Ill., found a way to do it without the usual high cost and complication.

By using a Dravo Counterflo for winter heating, one set of duct-work serves the year-round, eliminating the cost and complication of a parallel piping system. All equipment is concentrated in a small utility area, readily accessible for adjustment or attention. The complete installation cost \$14,000 less than the lowest bid on a wet-type heating system plus equivalent conditioning apparatus . . . a saving of 38%.

During the winter, heated fresh and recirculated air are automatically blended, balancing heat input to heat loss and maintaining selected temperatures in various locations with minimum fuel. In summer, air volume is increased by adjusting vari-pitch sheaves on the blower motor. Because of the stainless steel combustion chamber of the heater, conditioned air can be circulated through the unit without danger of corrosion. The ever-present problem of excess infiltration of air at entrance doors is solved by the use of ducts which discharge heated or cooled air into the entrance area. Aside from turning switches for winter or summer operation, control is completely automatic.



If you have a heating-air conditioning problem, you, too, may find the Dravo Heater an ideal means of reducing installation, operation, and maintenance costs. Ask for a case history describing the Bramson installation in detail . . . and, for full data on the Dravo Counterflo Heater, ask for Bulletin IJ- 23-9102.



Unretouched photograph of the Quincy School, Dedham, Mass. Electrical Contractor: Robert L. Tibbets, Dedham. Area: 804.5 square feet. Fixture Mounting Height: 10'-0". Fixture spacing: 10'-0". Fixtures: 9. No. 6628 pendant mounted, with 2-T1296 Standard Warm White Slimline lamps each. Watts per fixture: 177. Watts per square foot: 1.98.

Room Finish: Cream yellow upper walls; olive green paint on chalkboards, using yellow chalk; dark varnished woodwork; scrubbed pine floors @ approx. 20% reflection factor. Readings at desk level: (20"-21" from floor), Average, 51.7 Footcandles initially. Vertical Readings on chalkboards: 28 Footcandles average.

The "LIGHT" Touch is the Right Touch to get Brighter Students

A pioneer in the use of fluorescent fixtures in the schoolroom, Dr. Calvin E. Wilcox, Superintendent of Schools in Dedham, Mass., believes that better lighting means brighter pupils. And since 1941 he has been modernizing seeing conditions in all his schools.

Typical is this installation of Litecontrol's newest, smartest Slimline fixture in the recently relighted Quincy school. Note the excellent illumination throughout the room — the even lighting of the chalkboards — the well

lighted ceiling with only moderate contrast — the unusually good end throw from the unit. Not shown, but important, is the 86% efficiency.

If you are planning a relighting job for schoolroom, office or showroom, we'd like to tell you more about this latest Litecontrol fixture.

LITECONTROL Fixtures
KEEP UPKEEP DOWN

LITECONTROL CORPORATION, 36 Pleasant Street, Watertown 72, Massachusetts

DESIGNERS, ENGINEERS AND MANUFACTURERS OF FLUORESCENT LIGHTING EQUIPMENT DISTRIBUTED ONLY THROUGH ACCREDITED WHOLESALERS



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the
Record...

and
you'll
use...

Architectural Record

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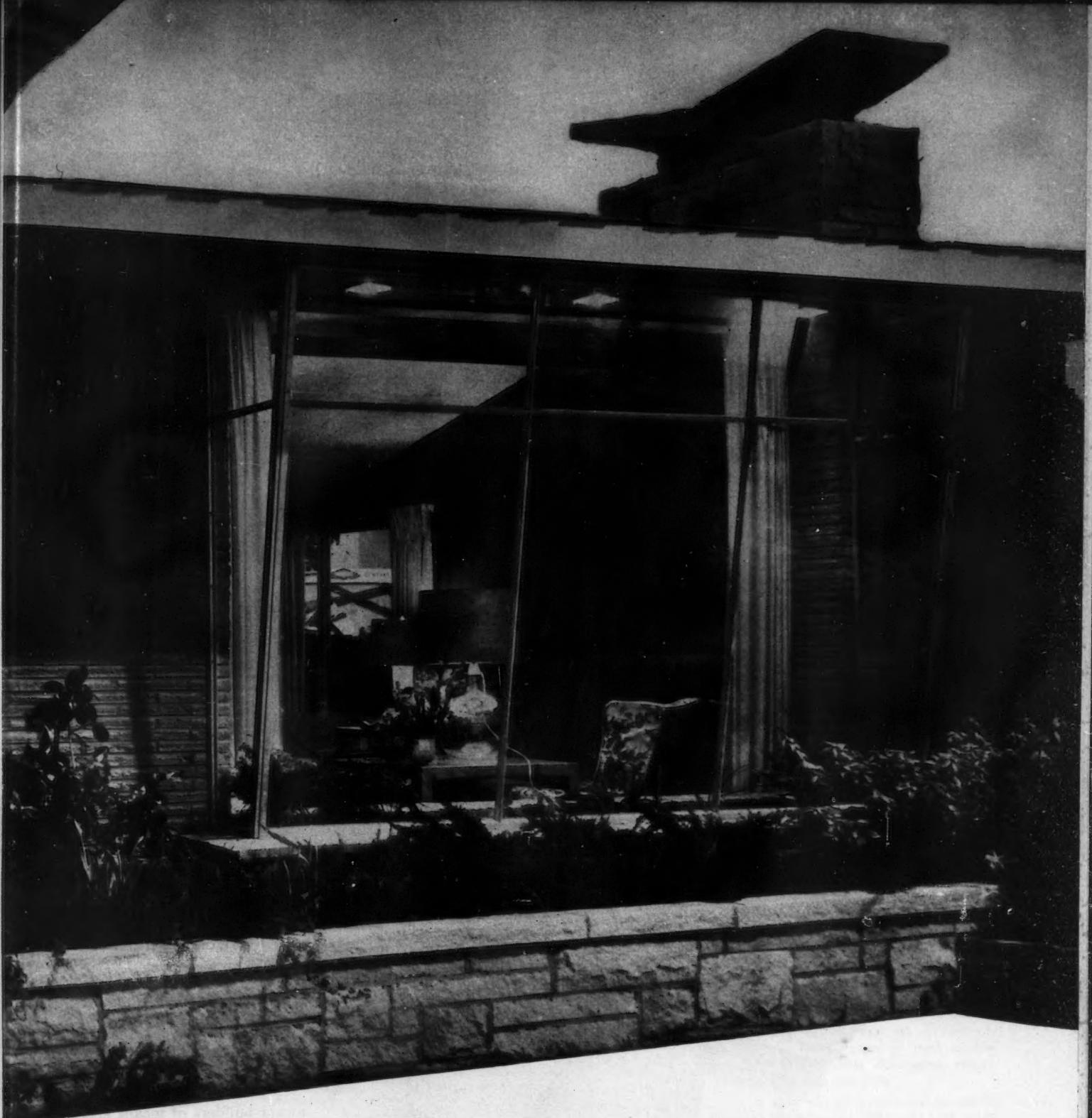


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New York 18, N.Y.
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architect-engineer"

Model House, Seattle, first presented
to architects and engineers in Archi-
tectural Record.

Architects: Lawrence & Hazen, Seattle
Photographer: Chas. R. Pearson



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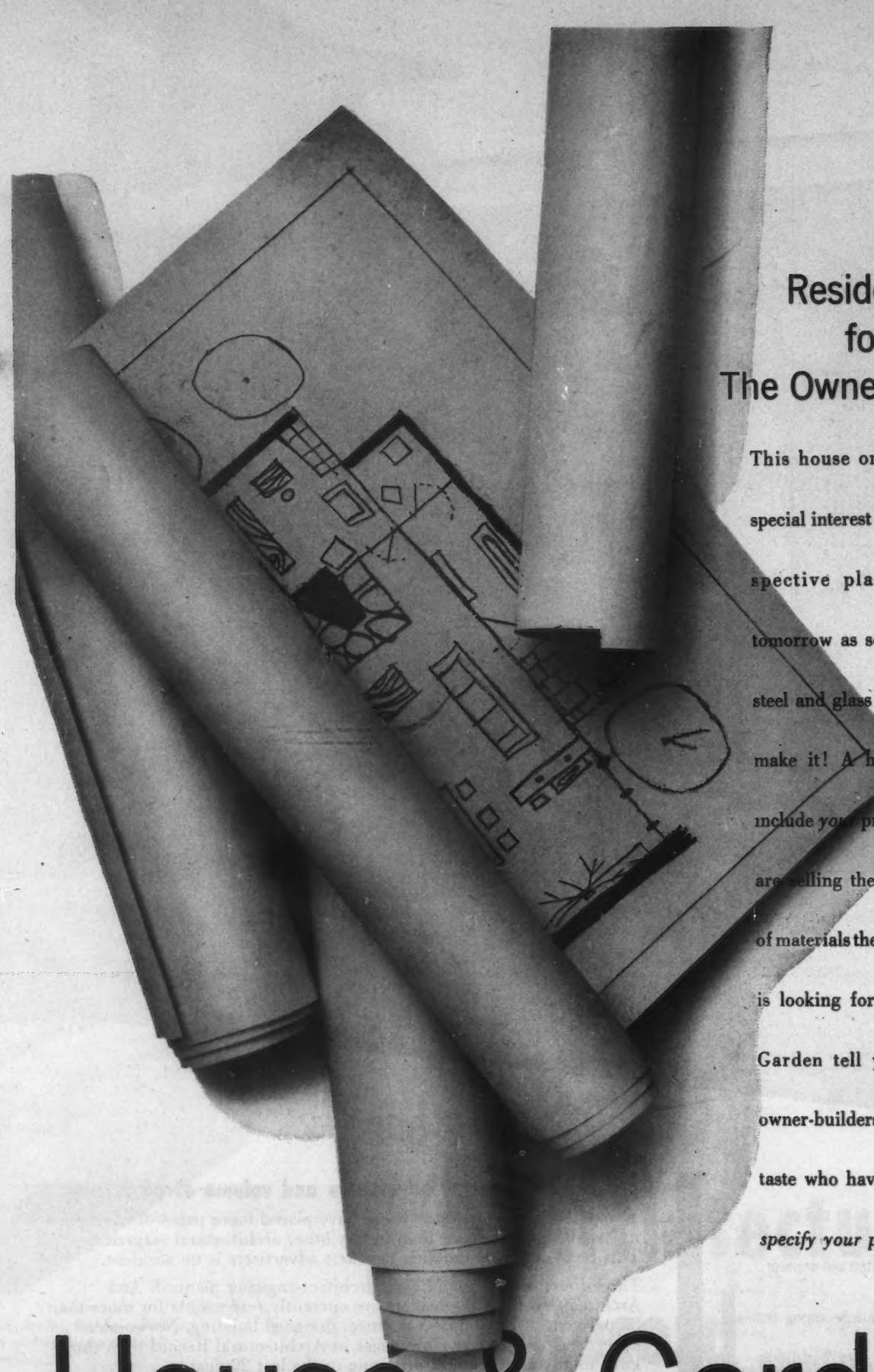
first in architects and engineers reached per dollar

✓ **FIRST** in number of advertisers and volume of advertising.

Year after year, more advertisers have placed more pages of advertising in Architectural Record than in any other architectural magazine. This recognition by building products advertisers is no accident.

Three-fourths of all building is architect-engineer planned. And Architectural Record's readers are currently responsible for more than 80 per cent of all architect-engineer-designed building. No wonder advertisers are placing more pages in Architectural Record than they have in any architectural magazine in the last 20 years.

Start your program for 1951 by making Architectural Record the "pivot paper" on your building products lists. We'll be glad to supply you with any details you need to help your planning. Just call the nearest Record office.



Residence for The Owner-Builder.

This house on paper is of

special interest to you. A pro-
spective plan today...

tomorrow as solid in fact as

steel and glass and brick can
make it! A house that can
include your product...if you

are selling the superior type
of materials the owner-builder

is looking for. Let House &

Garden tell your story to

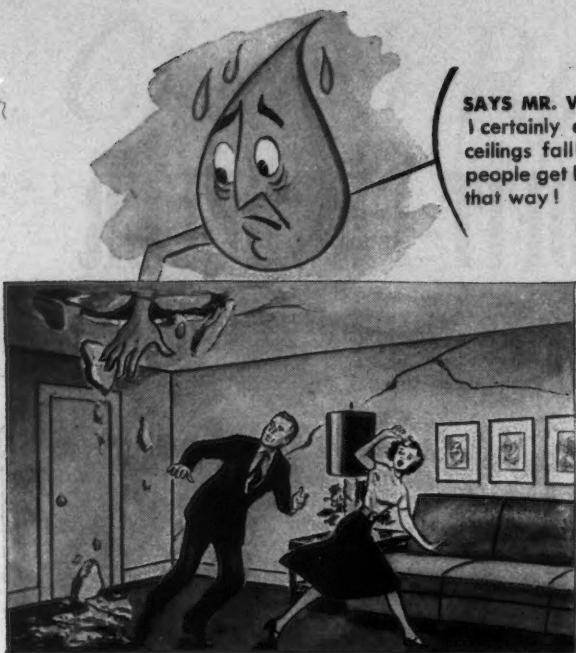
owner-builders of means and

taste who have *the power to*
specify your product.

House & Garden

...for the owner-builder market

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SAYS MR. WETWALL:
I certainly can make ceilings fall! . . . And people get badly hurt that way!



SAYS MR. DRYWALL
(alias Mr. Homasote):
I keep people happy, dry and safe . . . no falling ceilings, no cracked or mildewed walls.

why build **WET** . . . when **DRY** WALL CONSTRUCTION is safer, faster, less expensive?

If you have experienced the roar of a falling ceiling—if you have ever seen the terrific damage done—there is little we need tell you about Dry Wall Construction. You know—as we do—that Dry Wall Construction is the greatest advance in 300 years of building.

A recent survey—by a prominent builder—indicated that 54% of the home owners in his territory now prefer Dry Wall Construction for their next homes.

Mr. Carl G. Lans, Director of the Technical Service Department of the NAHB says, "Before the war, everything was lath and plaster; now it is a rare thing in residential construction. Dry wall has proved satisfactory, not only because it is much more economical, but also because it produces a true, straight wall . . . and eliminates the introduction of many gallons of moisture into the house. In addition, it is a time saver."

For 32 years Homasote has been used for Dry Wall Construction—in millions of dollars of private homes. Since 1936 its use has been supported by intensive research costing more than \$500,000.

If Rameses had had Homasote . . .

instead of plaster, dry walls and ceilings would now have been the *accepted method*. It would have been impossible to gain acceptance for a material that creates the annoyances, expense and perils of cracked walls and falling ceilings.



Dry Wall Construction—with Homasote Big Sheets—offers many major advantages . . . The average wall is covered with a single sheet; batten strips and unsightly wall joints are eliminated. Joints are made at doors and windows, as desired . . . Labor costs are minimized; many fewer handling operations; many fewer nails . . . In a single material you provide lasting insulation value and great structural strength . . . You build a quieter home, free from dampness—with dependable insurance against musty closets and mildewed walls.

Dry Wall Construction—with Homasote Big Sheets—means walls that are permanently crackproof, ideal for paper or paint, lending themselves to modern decorating effects, modern mouldings and trim.

Let us send you performance data and illustrated literature on Homasote and allied products.



Oldest and strongest insulating
and building board on the market

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Send me literature as checked:

Standard Homasote (Big Sheets)	(<input type="checkbox"/>)	Sote Asbestos Board	(<input type="checkbox"/>)
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Name _____ (Please print in pencil)

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Here it is!

'51's LIKELIEST PROFIT-PRODUCER

for manufacturers of new-home products!

Here's why...

UNIQUE government-curbed mass housing, the rich custom-built market is heading for an upswing in '51—and Home Owners' Catalogs sells this quality market like no other medium does.

UNIQUE mass "shelter group" publications, Home Owners' Catalogs selectively sells this selective market by distributing your sales literature to *known consumer prospects only* — families who are *impelled to buy*.

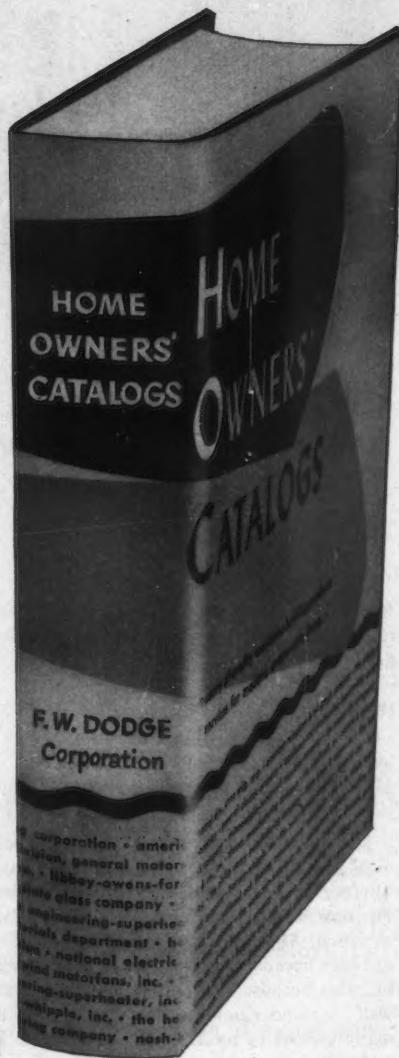
UNIQUE the function of mass advertising, consumer catalog distribution via Home Owners' Catalogs provides detailed *buying information* which influences *buying decisions* made by specific, verified, dominant *buying factors*.

UNIQUE any other printed means you can name, Home Owners' Catalogs is the *most effective, most economical* distributor of consumer sales literature to the greatest number of qualified home-planners.

UNIQUE any other year in its history, Home Owners' Catalogs is now serving more national accounts than ever before . . . distributing more consumer catalogs than ever before (over 2,500,000) . . . binding bigger books than ever before (over 398 pages).

UNIQUE all other merchandising aids offered by consumer publications and services, the Home Owners' Catalogs merchandising package is a *proven sales-maker* with plenty of dealer-level impact.

**ACT NOW! HIRE HOME OWNERS' CATALOGS FOR '51!
YOU'LL LIKE WHAT IT DOES TO YOUR SALES!**



RARE SALES OPPORTUNITY
for manufacturers of building materials, equipment, appliances, and home furnishings!

Write today for full facts on Home Owners' Catalogs and the quality housing market. These two brochures are yours for the asking: "Now You Know" and "Let's Sell Quality Housing".

HOME OWNERS' CATALOGS

THE F. W. DODGE CORPORATION'S

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DISTRIBUTION SERVICE

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Church Roofs by Overly



CHURCH ARCHITECTS CHOOSE OVERLY!

For new churches and old, modern Overly-Goodwin Batten Type Metal Roofing gets the call.

Reproduced above, in miniature, are four full-page advertisements that have appeared in leading Architectural Magazines during 1950.

Ad #1—which appeared in March, 1950 Architectural Record, describes the reroofing of Grace Methodist Church, Wilmington, Delaware, with Overly-Goodwin Roofing in Alrok-finish Aluminum.

Ad #2—which appeared in May, 1950 Architectural Record, illustrates the application of Overly-Goodwin Roofing in copper on the Park Synagogue, Cleveland Heights, Ohio.

Ad #3—June, 1950 appeared in Architectural Forum, and tells the before-and-after story of St. Mary's Greek Catholic Church in Scranton, Pennsylvania.

Ad #4—July, 1950 appeared in Architectural Record, and describes how the First United Brethren Church in Greensburg, Pennsylvania, was given a new lease on life. 105 tons of tile roofing, which had broken down the roof trusses, were removed and replaced by Overly-Goodwin Roofing in Aluminum.

GET YOUR COPY OF OVERLY'S 1951 CATALOG

This eight-page catalog, shown below, is just off the press. It contains details, specifications, and additional illustrations of the application of Overly-Goodwin Batten type Roofing to churches, and many other types of public buildings. The specifications and details of Overly Metal Coping and Overly Alumisills are also fully described.

Pend Today for this catalog preprint, which is now available. It will also appear in 1951 Sweet's File.



A DEPENDABLE SPECIFICATION SINCE 1888

OVERLY
MANUFACTURING COMPANY
Dept. AR
GREENSBURG, PA.
(Phone Greensburg 154)
Sales Representatives in All Principal Cities

READY! A NEW DUAL DUCT AIR CONDITIONING SYSTEM FOR MULTISTORIED BUILDINGS

EMBODIES THE ADVANTAGES OF ALL CURRENT PRACTICE WITH HIGH PERFORMANCE AND LOW TOTAL OWNING AND OPERATING COST. EXISTING STRUCTURES ARE SERVED AS WELL AS NEW BUILDINGS.

MAJOR FEATURES

PRACTICAL

NO CONCEALED WATER PIPES • NO CONCEALED DRAINS TO CLOG, NATURALLY NO POSSIBILITY OF CORROSION • NO WATER OR STEAM COILS IN DISTRIBUTING UNITS TO CATCH DUST, THEREFORE NO AIR CLEANING DEVICES REQUIRED IN THE UNITS.

SIMPLE

NO POSSIBILITY OF CONDENSATION AT THE DISTRIBUTING UNITS • NO FANS AND CONSEQUENTLY NO ELECTRIC CONNECTIONS ARE REQUIRED AT THE DISTRIBUTING UNITS • ALL THE CONDITIONING AND CLEANSING OF THE AIR IS ACCOMPLISHED AT CENTRALLY LOCATED STATIONS WHERE IDEAL MAINTENANCE CAN BE HAD.

FLEXIBLE

EACH AND EVERY CUBICLE CONDITIONED HAS ITS INDIVIDUAL TEMPERATURE CONTROL, PERMITTING THE HEATING OF ONE CUBICLE WHILE COOLING THE NEXT ONE.

REASONABLE COST

PARTITION ALTERATIONS AS MAY BE NECESSARY FOR TENANT CONVENIENCE REQUIRE NO CHANGE OF THE AIR CONDITIONING DISTRIBUTION • ALL THIS WITH SMOOTH PERFORMANCE AT THE LOWEST TOTAL OWNING AND OPERATING COST.

THE BUENSOD-STACEY DUAL DUCT SYSTEM HAS BEEN THOROUGHLY OWNER-TESTED ON MANY PROJECTS • NAMES ON REQUEST

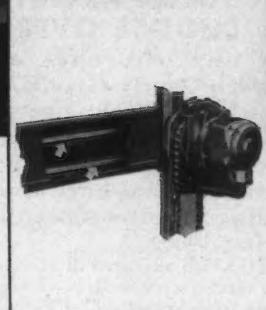
SYSTEM PROTECTED BY PATENT APPLICATIONS

BUENSOD-STACEY
INCORPORATED
NEW YORK GREENSBORO CHARLOTTE

CHICAGO'S GREAT FILTRATION
PLANT HAS
SHAFT *Security*



FREIGHT ELEVATORS
EQUIPPED WITH
SECURITY "UNI-MOTOR"
OPERATED DOORS



Strong, compact, rigidly attached operator unit is connected to adjustable sheave at opposite side by firmly supported and completely covered "no-sag" roller chain giving continued positive performance. Security operators allow manual operation in case of emergency.

WHERE 24 HOURS A DAY DEPENDABLE DUTY IS REQUIRED... SECURITY AUTOMATIC DOORS ARE SPECIFIED

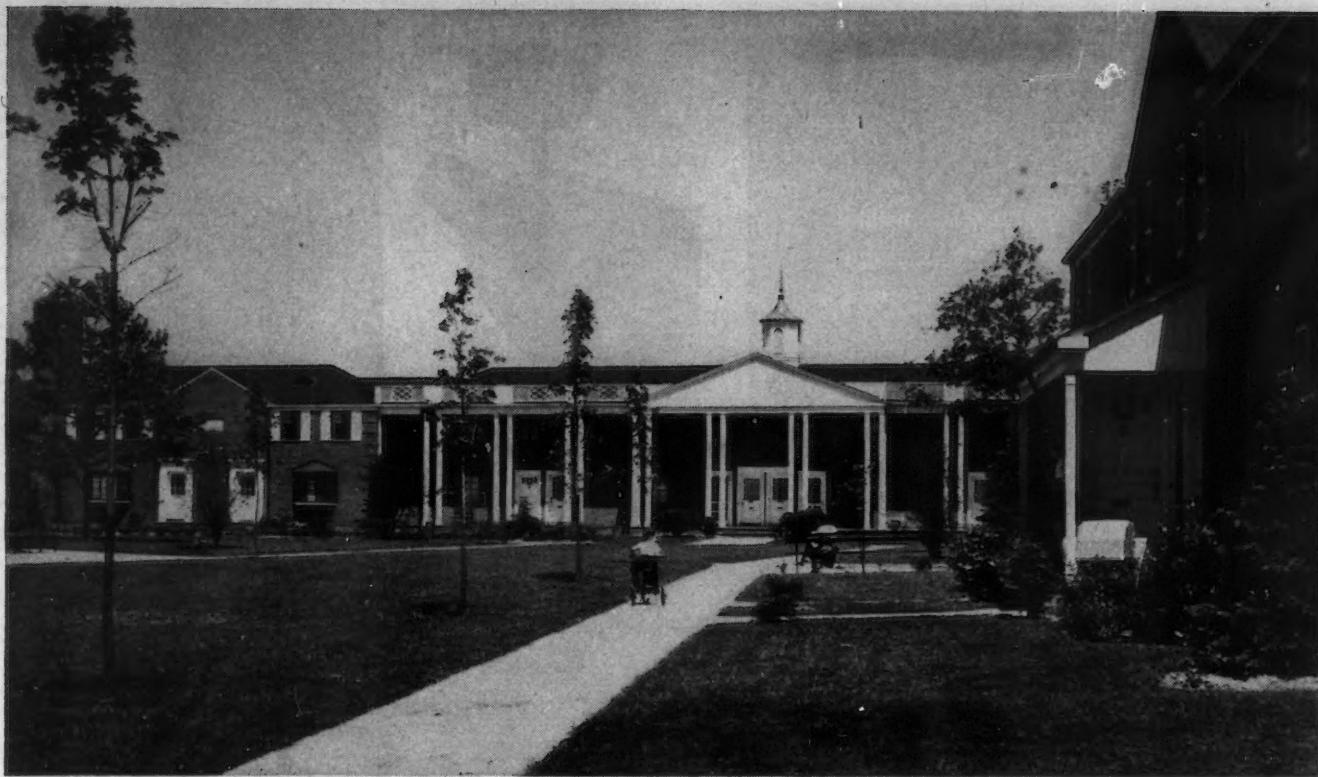
Thousands of installations throughout America have proven to architects that where years of unfailing service are the requirement, SECURITY DOORS and OPERATORS do the job. Rugged, engineered-to-perfection, metal clad, hand or power operated freight doors... made by SECURITY... will do your job better... longer!

THE SYMBOL OF PROVEN PERFORMANCE

Security FIRE DOOR CO.



3046 LAMBDIN AVE. • ST. LOUIS 15, MO.



Benjamin Braunstein, architect; Gross-Morton Company builders; Louis Light, plumbing and heating contractor; Kingsway Plumbing Supply Co., Inc., Floral Park, N. Y., plumbing distributor.

KOHLER PLUMBING FIXTURES in Glen Oaks Village

Glen Oaks Village is a 175-acre park community in the Borough of Queens, New York City, containing 3800 rental-apartments. As in other large housing projects, Kohler fixtures and fittings were preferred for bathrooms and kitchens.

Fixtures of enameled iron include Cosmopolitan 5-foot bench baths, Hampton 19x17" shelf lavatories, Alloway 42x20" sink and laundry tray combinations, Camberley 60x25" double drainboard, single compartment ledge sinks, and Emery 24x20" laundry trays on adjustable standards. Trylon close-coupled closets are of vitreous china, with Bramhall Regent seats.

All Kohler fixtures have lustrous, glass-hard, easy-to-clean surfaces. The chromium-plated brass fittings, made expressly for Kohler fixtures, assure long-lasting service, economical maintenance. Send for further information.

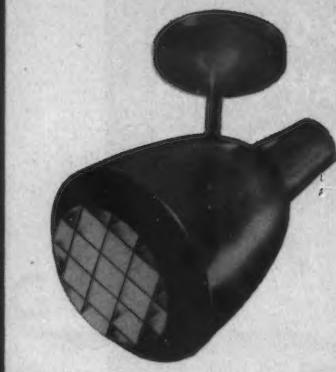
Kohler Co., Kohler, Wisconsin.
Established 1873.



KOHLER OF KOHLER

PLUMBING FIXTURES • HEATING EQUIPMENT • ELECTRIC PLANTS • AIR-COOLED ENGINES

The Century 'Dramalite' is freely adjustable in any direction up to 115 degrees from the vertical and 360 degrees horizontally by means of simple, foolproof, concealed swivel joints. Accommodates standard reflector lamps. Precision made eggcrate louvre (available as extra) gives positive cut-off at 45 degrees. Internal clips hold colored glass filters.



CENTURY LIGHTING, INC., 521 WEST 43RD STREET, NEW YORK 18 • 626 NORTH ROBERTSON BOULEVARD, LOS ANGELES 46

DECORATIVE GRILLES

with

Perfect

Air

Control



This dual-unit Hendrick Bulator installation, in the home of the president of a prominent corporation, combines complete control of air throw and spread, with a pleasing decorative effect. Although the deflecting vane grilles of the Bulator are directly behind the ornamental grilles, only the latter are visible. Write for full details.



Perforated Metals
Perforated Metal Screens
Architectural Grilles
Mitco Open Steel Flooring,
"Shur-Site" Treads and
Armorgrids

HENDRICK
Manufacturing Company
38 DUNDAFF STREET, CARBONDALE, PA.
Sales Offices in Principal Cities

Fume-Free Air...



Kent-Moore
MONOXIVENT
EXHAUST ELIMINATING FIXTURES

You'd be surprised at what an improvement there is in mechanic efficiency and morale when you take the toxic carbon monoxide away from the air they breathe. And when it comes to eliminating exhaust fumes, you'll be equally surprised at how conveniently, how efficiently it's done with Kent-Moore's J 2980 MONOXIVENT Set. It's designed for use with underfloor exhaust eliminating systems . . . features a special tailpipe adapter, an asbestos packed stainless steel tube, and a virtually airtight floor outlet assembly. Smart idea there too. You see, the adapter and tubing slip down into the underfloor duct for safe keeping when not in use. Fully protected, can't get lost or "borrowed". And it gets rid of unsightly hoses hanging from overhead. Important, too, from a cost point-of-view, is the simplified installation. Readily installed in an upturned "V" section of the main underfloor duct. No individual "T's" or branch ducts required. Keeps cost to a minimum for any underfloor system.



If you're looking for effective means of eliminating exhaust fumes at low installation cost, write today for complete information on the Kent-Moore J 2980 MONOXIVENT.



KENT-MOORE ORGANIZATION, INC.

GENERAL MOTORS BUILDING • DETROIT 2, MICHIGAN

Engineers and Manufacturers of Special Sales and Service Engineering Represent-
Automotive Service Tools and Equipment atives in Principal Cities Coast-to-Coast



You can build *any style fireplace* around the Heatilator Fireplace unit!

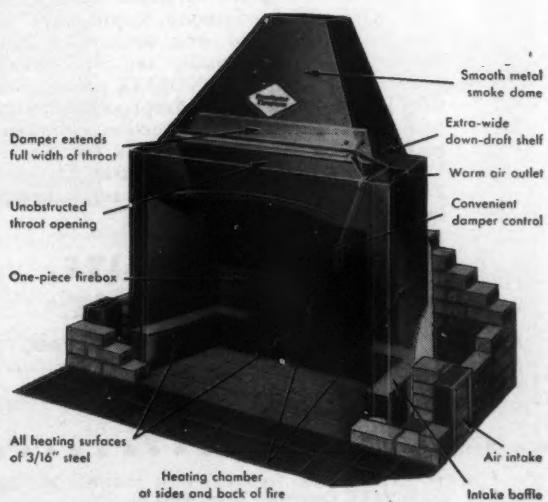
THERE'S never been any argument about a Heatilator* Fireplace being more efficient than a conventional fireplace. The Heatilator unit simplifies and standardizes construction, assures correct operation—and actually circulates heat to every corner of the room. But how does it affect fireplace design?

NO LIMIT TO MANTEL DESIGN. The Heatilator unit is a scientifically designed steel form that provides all the vital parts of the fireplace from floor to chimney flue. It places no restriction on mantel design or use of materials. There is complete freedom of architectural expression—both in style and decorative treatment.

ASSURES CORRECT CONSTRUCTION. When you specify Heatilator Fireplace you know that the fireplace will draw properly and will not smoke. The

Heatilator unit is factory engineered to eliminate the errors that come from guess-work and rule-of-thumb construction methods.

PROVED FOR 24 YEARS. Heatilator has been the leader in heat-circulating fireplaces for over 24 years. For better client satisfaction, be sure to specify *Heatilator Fireplace*. The name Heatilator is on both the dome and damper handle! Write today for complete specifications and illustrations. Heatilator, Inc., 6112 E. Brighton Ave., Syracuse 5, N. Y.



*Heatilator is the registered trademark of Heatilator, Inc.

HEATILATOR America's Leading FIREPLACE

T.M. REG. U.S. PAT. OFF.

EFFECTIVE

Sound Conditioning

at Lowest Cost!



ZONOLITE* ACOUSTICAL PLASTIC also provides greatest fire protection!

The most economical sound-conditioning for old or new construction is provided by ZONOLITE* Acoustical Plastic. It trowels on like plaster over any clean, firm surface—even curved or irregular, thus eliminating trimming, cutting and fitting. The attractive color and texture of Zonolite Acoustical Plastic usually requires no further decorating. Like all ZONOLITE products Acoustical Plastic is absolutely fireproof itself and thus provides maximum fire protection for underlying materials. Its sound coefficient is .65.

For complete information concerning ZONOLITE Acoustical Plastic send coupon below, today!



ZONOLITE COMPANY

135 S. LaSalle Street,
Chicago 3, Ill.

*ZONOLITE is a registered trademark

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ZONOLITE Company, Dept. AR-120
135 S. LaSalle St., Chicago 3, Ill.
Please send me FREE booklet PA-5 on ZONOLITE Acoustical Plastic.

Name.....

Address.....

City..... Zone..... State.....

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FIREMEN EVERY 10 FEET

Does Insurance Compensate? Insurance against FIRE pays only for loss of physical property... NOT for lost production, cancelled contracts, lost business or human lives. GLOBE Automatic Sprinklers curb ALL losses due to FIRE.

GLOBE AUTOMATIC SPRINKLER CO.
NEW YORK... CHICAGO... PHILADELPHIA
Offices in nearly all principal cities

THEY PAY FOR THEMSELVES

2 BURNHAM PRODUCTS THAT PROVIDE LOWER-COST, SPACE-SAVING, RADIANT HEATING SYSTEMS!



BURNHAM'S
BASE-RAY*
Radiant Baseboards

Lifetime cast-iron baseboard units. Provide radiant heat at ankle height. Fins are part of casting—cannot come loose. No "false front" or grilles to become dented. Easy to install, accessible, leave floor space entirely free. Specify them!

THE PACEMAKER OIL-FIRED BOILER

Lowest priced cast-iron oil-fired quality boiler on the market. Complies with ASME code. Economical in cost because it's shipped assembled—simple to install. Specify it! Team it with BASE-RAY for lowest cost, mid-century radiant heating installations.

Why specify ordinary heating? Get all the details of this famous team and other Burnham products. Write for Catalog 81 TODAY.



Burnham Corporation
"PIONEERS OF RADIANT BASEBOARD HEATING"
IRVINGTON, N. Y.

*Reg. U. S. Pat. Off.

marble



for
the
home



Marble creates an atmosphere of refinement in the home which few other materials can approach. It is as equally desirable for its long life of lustrous beauty which requires only the simplest attention to maintain and clean, as for its ability to adapt itself sympathetically to any decor.

For floors or walls, in the foyer, living room, bath or kitchen — in fact, everywhere in the home — Marble contributes a *modern* note to good design.

FREE BOOKLET: "Marble for the home" will be sent on request. Write:

MARBLE

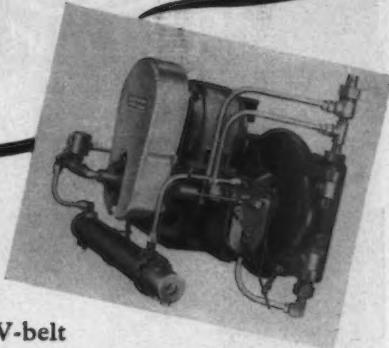


INSTITUTE OF AMERICA, INC.

108 FORSTER AVENUE MOUNT VERNON, NEW YORK



Keep Heating Comfort **HIGH** with **ENTERPRISE** **OIL BURNERS**



Available in a wide range of industrial and automatic sizes up to 650 boiler HP, Enterprise V-belt Oil and Combination Gas-Oil Burners provide highest heating comfort and long-term economy for every type and size building. For the best in modern burners, specify Enterprise—the choice of heating experts. Full information on request.

Three Enterprise Oil Burners furnish complete heating comfort for the Southwestern Bell Telephone Company's Repeater Station in Kansas City, Missouri.
Architects: Neville-Sharp & Simon
Mechanical Engineers: Howarth, Scott & Kinney
General Contractors: Swenson Construction Co.
Heating Contractors: U. S. Engineering Co.
Enterprise Distributor: Gate City Petroleum Company

ENTERPRISE ENGINE & MACHINERY CO.

A Subsidiary of General Metals Corporation

18th & Florida Sts., San Francisco 10, Calif. Distributors in Principal Cities



Enterprise Oil Burners

**SPECIFY
SPOT
SASH
CORD
FOR
LIFETIME SERVICE**

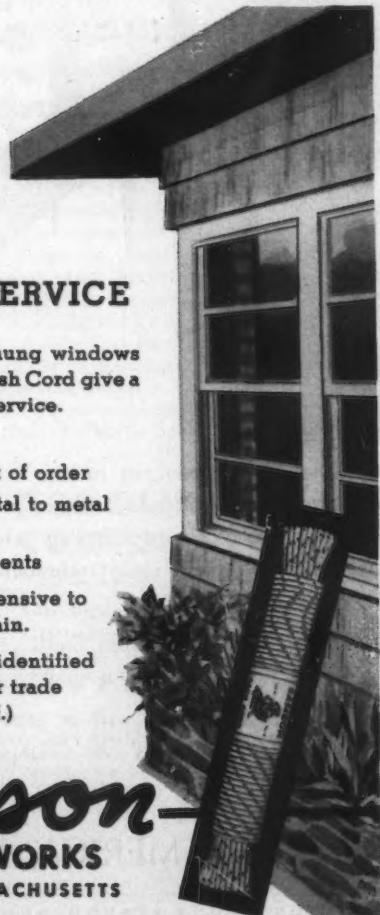
Weight and pulley hung windows using time-tested Spot Sash Cord give a lifetime of trouble-free service.

- No adjustments
- Nothing to get out of order
- No noise from metal to metal contact
- No early replacements

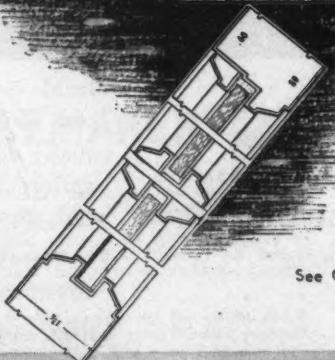
Spot Sash Cord is inexpensive to install . . . easy to maintain.

Specify Spot Sash Cord . . . identified by the colored spots, our trade mark (Reg. U. S. Pat. Off.)

Samson
CORDAGE WORKS
BOSTON 10, MASSACHUSETTS



Hollow
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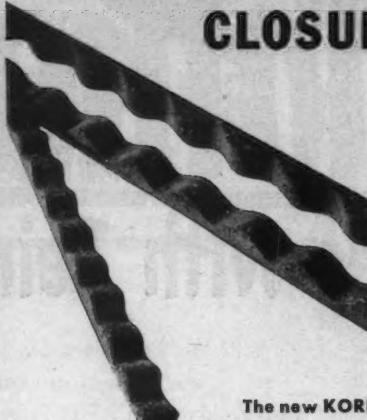
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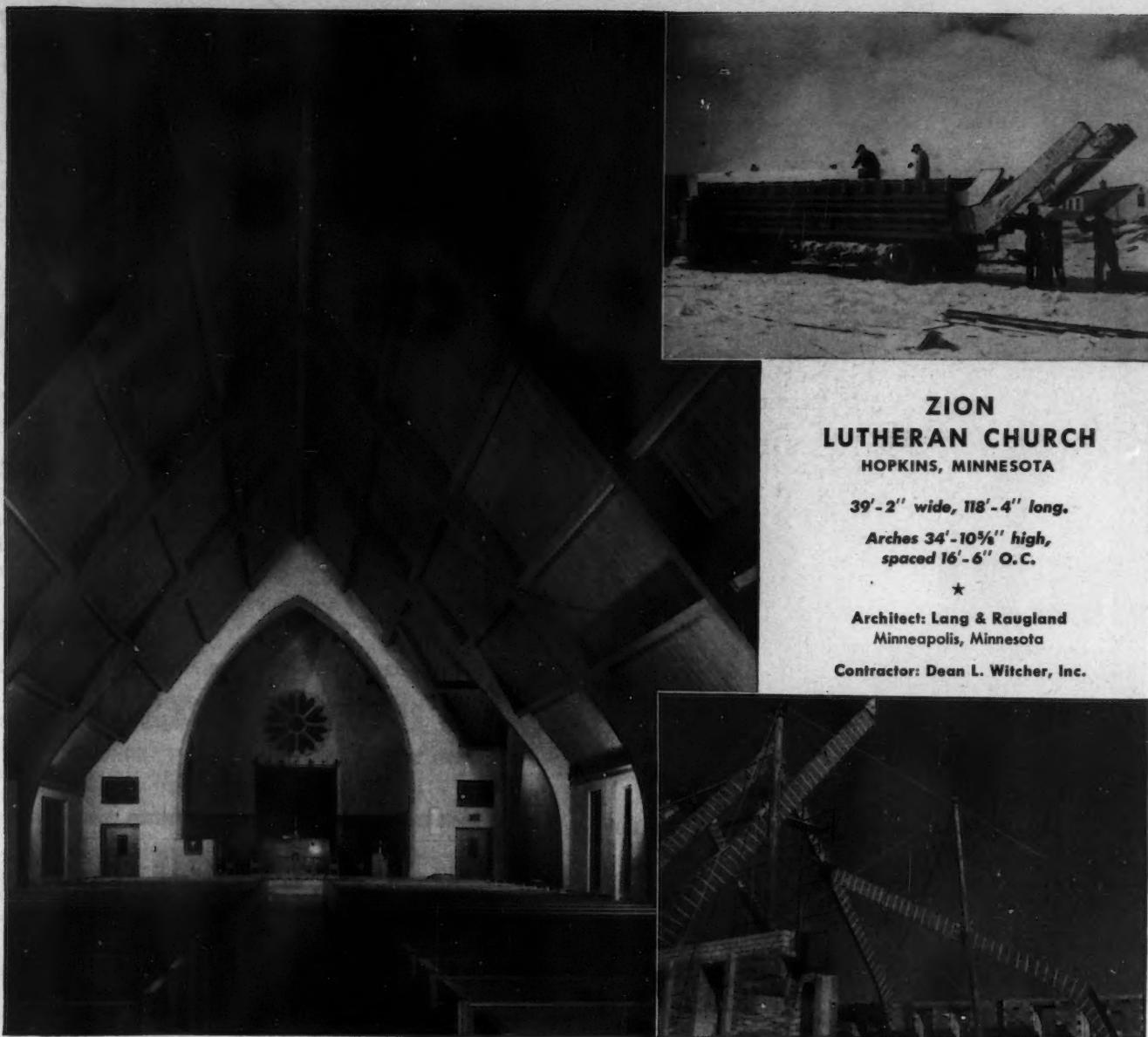
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Upper photo shows the terminal building of the Seattle-Tacoma Airport from the ground approach side. Central section is five stories high surmounted by the control tower. In plan the structure is a blunted V, 800 ft. long from end to end of passenger concourses. Total floor area, 243,000 sq. ft. Lower photo shows entrance tower. Grillwork is cast stone. Designed by the staff of the Port of Seattle. Lease and Leigland, Seattle, were the general contractors.

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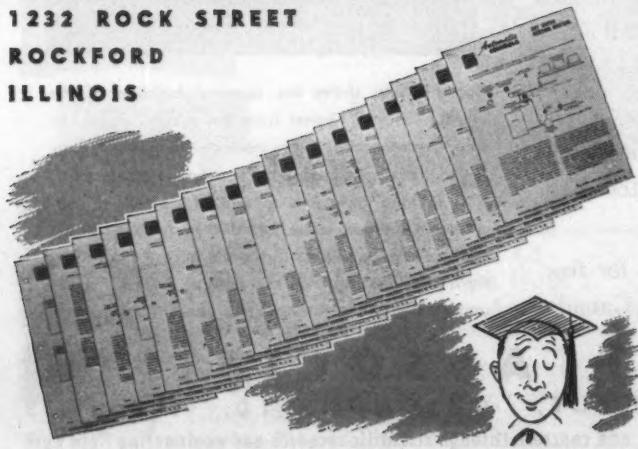
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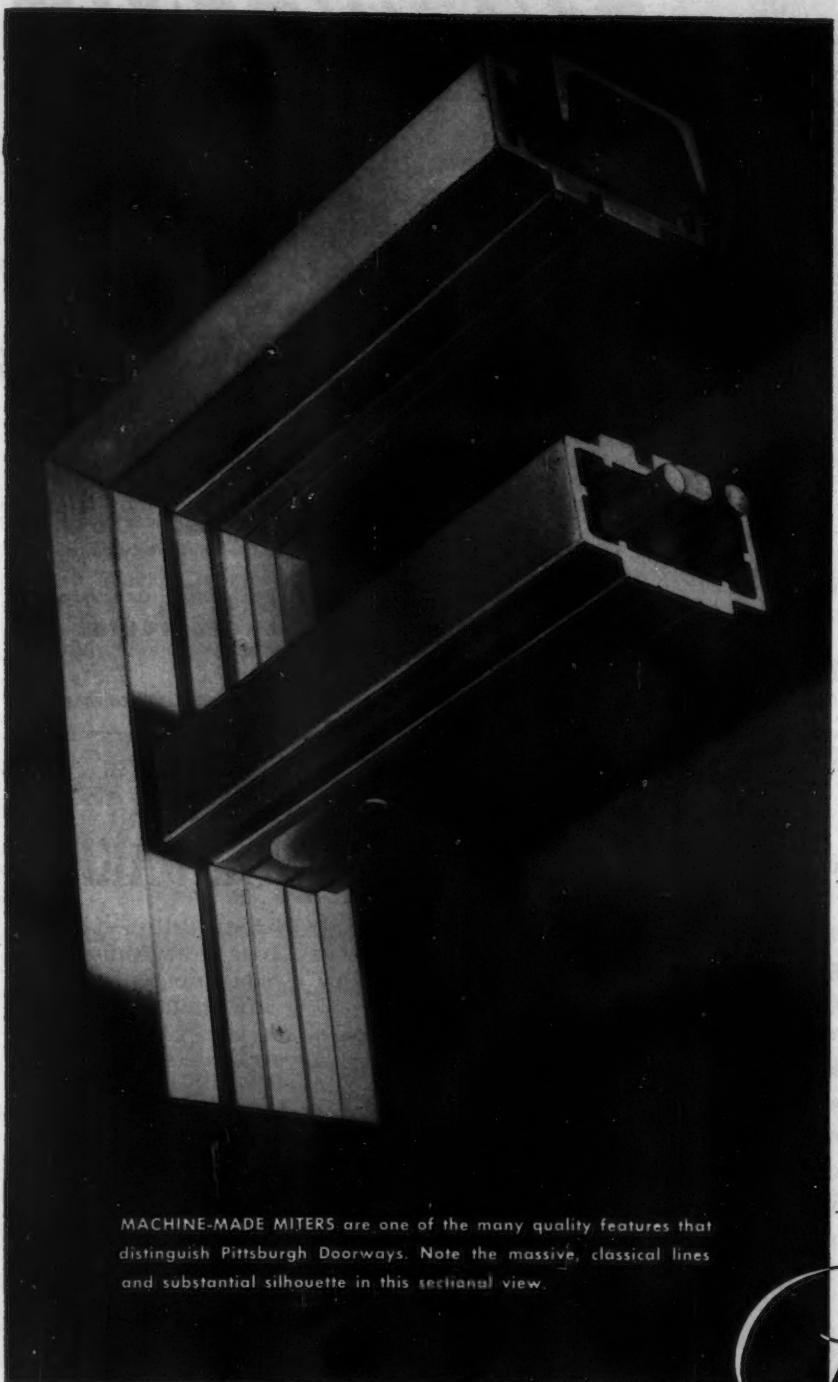
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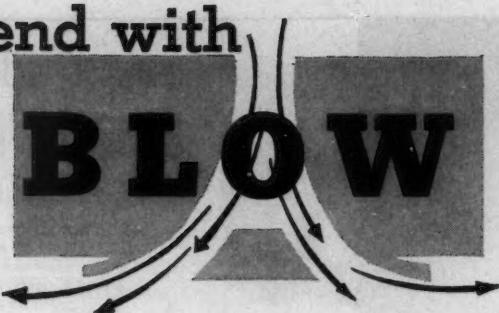
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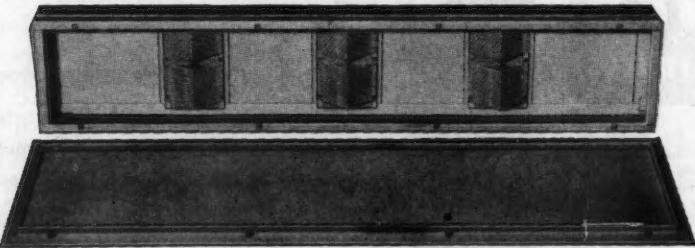
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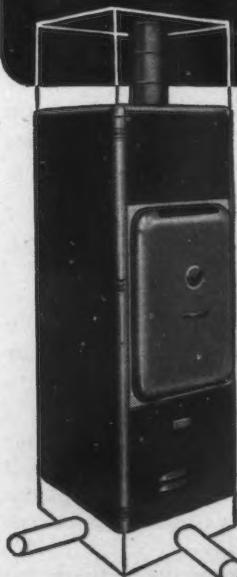
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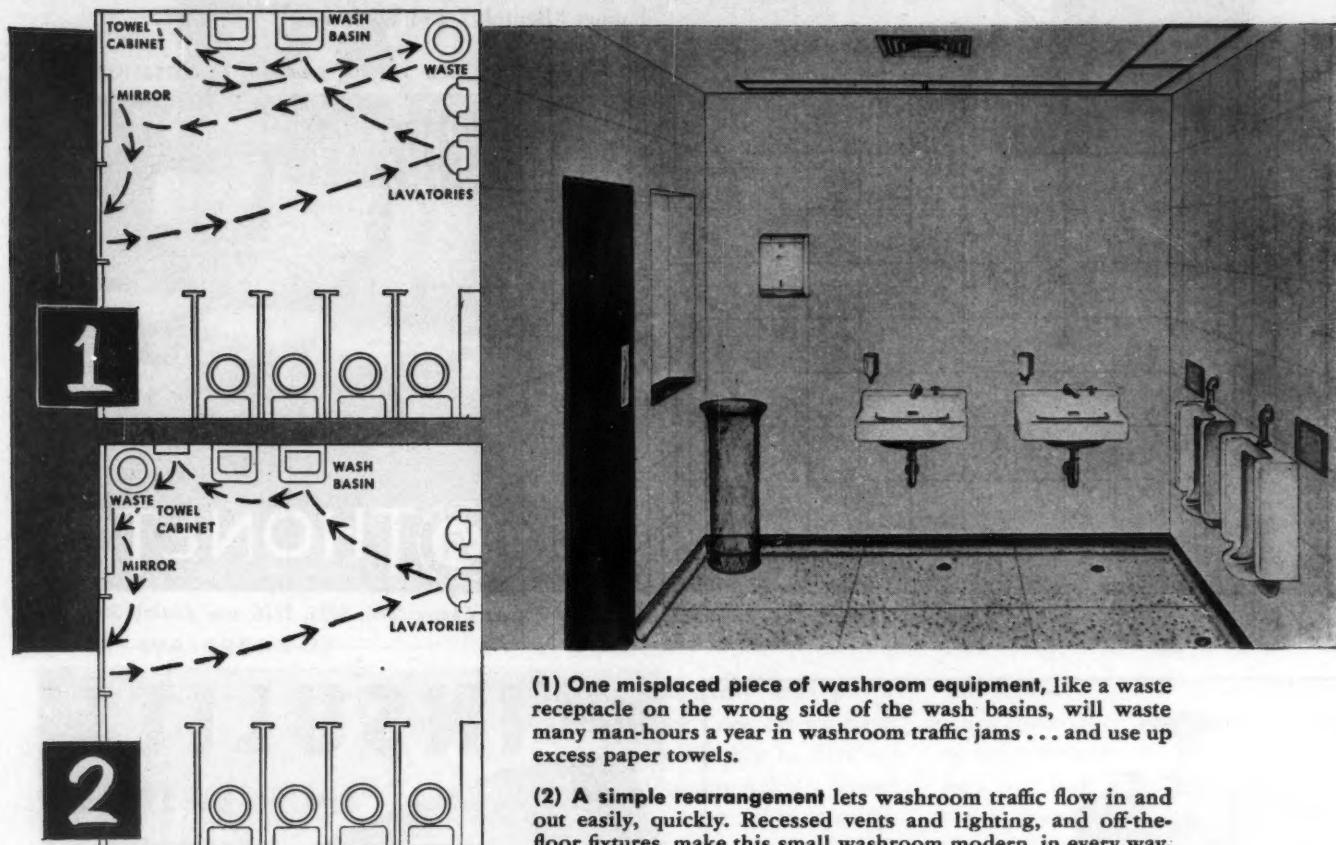
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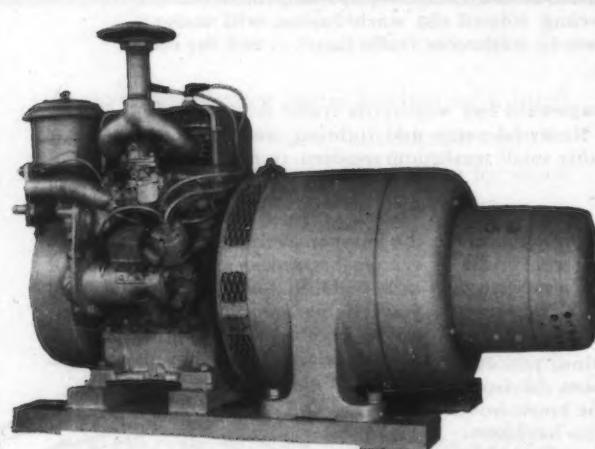
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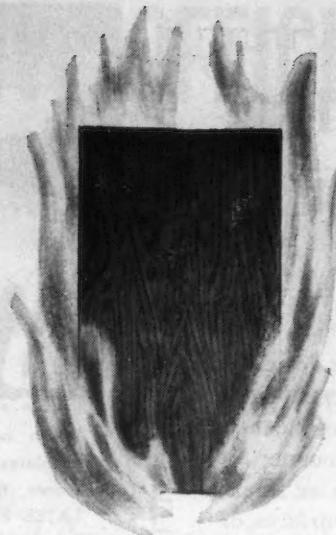


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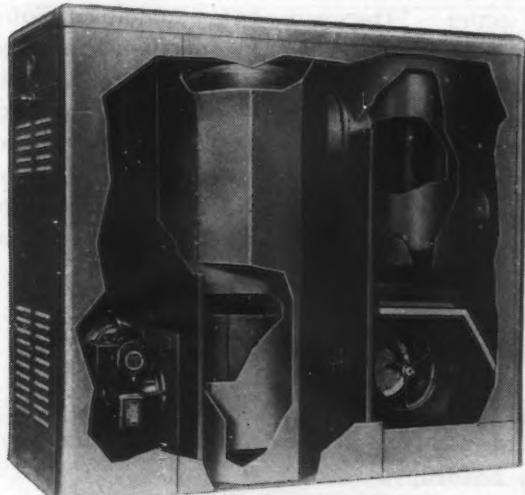
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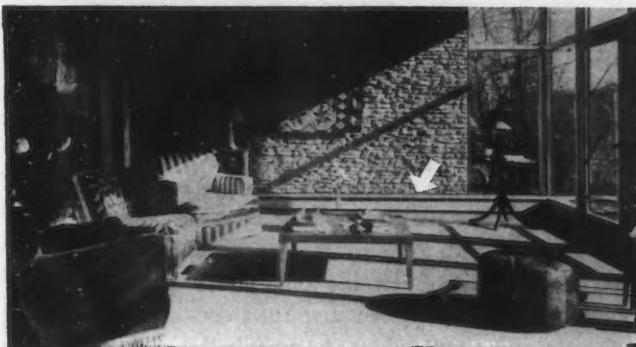
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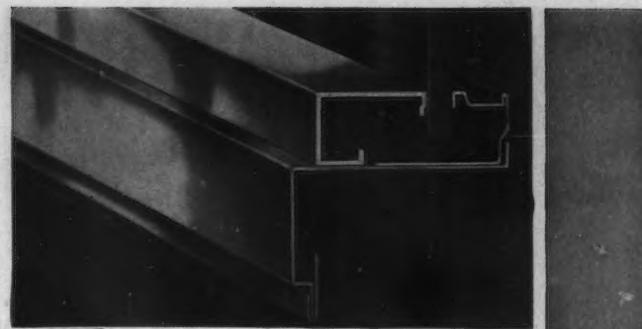
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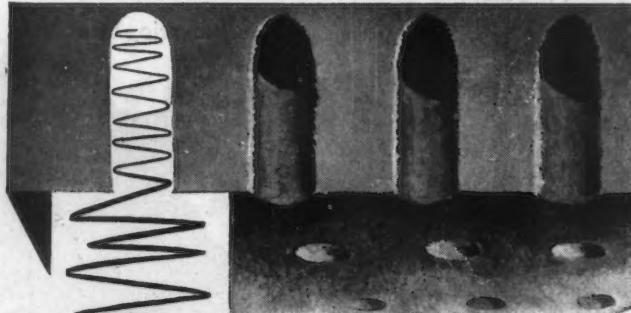
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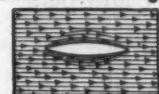
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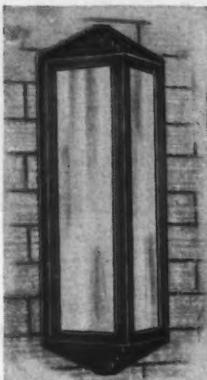
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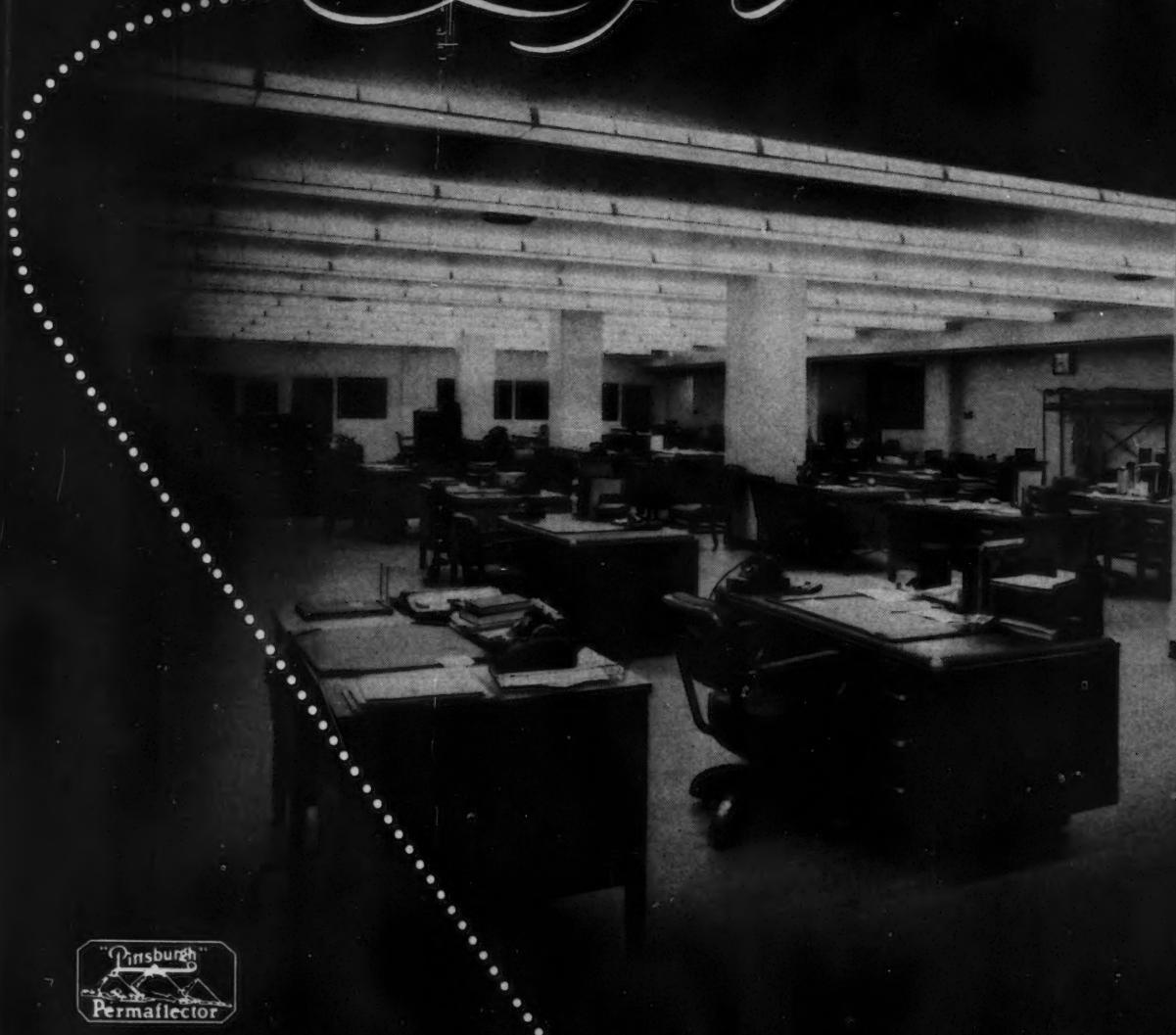
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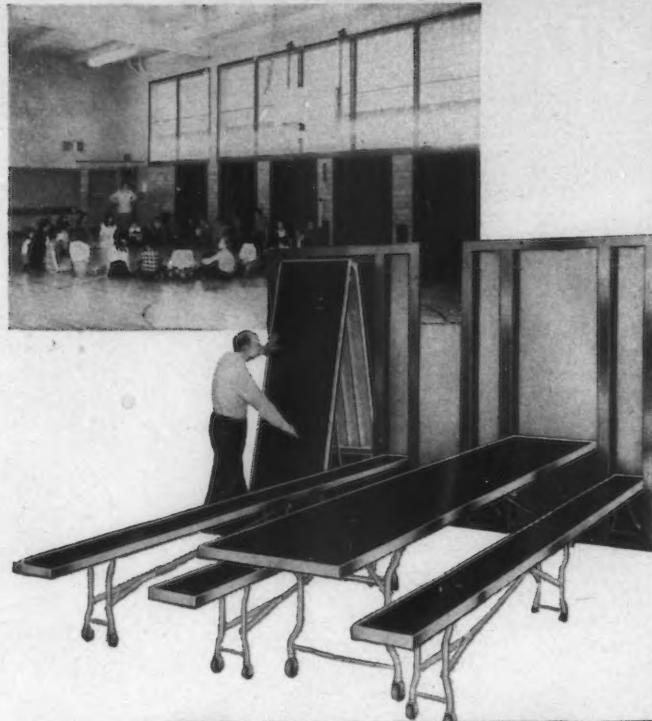
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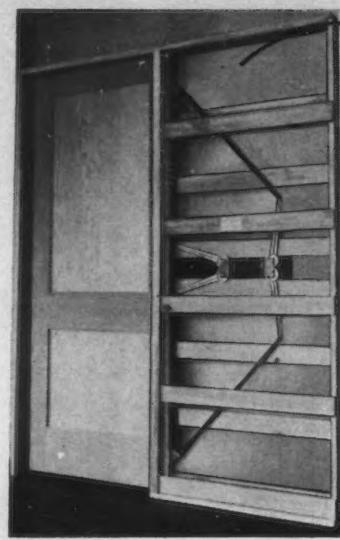
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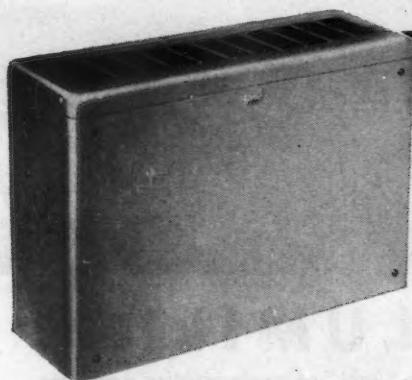


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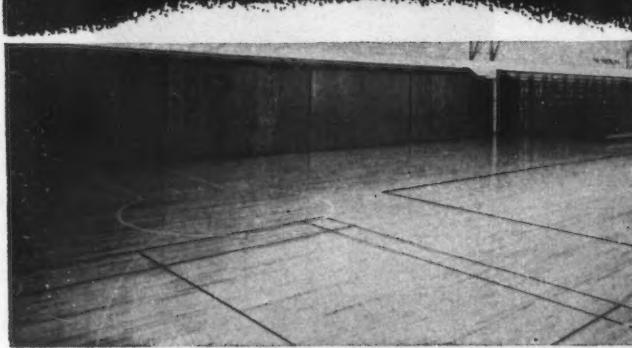
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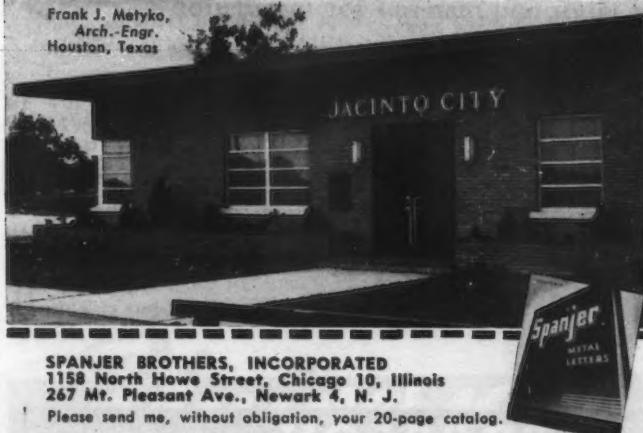
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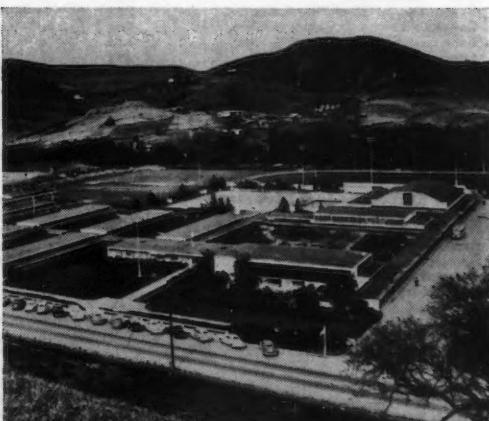
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